

**Arkansas Works Program  
Evaluation for Section 1115  
Interim Evaluation Report  
Project Number 11-W-00287/6**

**Interim Evaluation**

June 30, 2021



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# 1 EXECUTIVE SUMMARY

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## Background

The State of Arkansas continues to implement its innovative approach to expanding coverage for individuals eligible for Medicaid. “Arkansas Works” is a five-year demonstration authorized through a CMS-approved, Social Security Act, Section 1115 Waiver. The demonstration was authorized from January 1, 2017, through December 31, 2021. This interim evaluation covers the demonstration’s impacts during the first three calendar years of the demonstration’s operation (2017–2019).

Arkansas Works follows the state’s previous *Health Care Independence Program* which concluded December 31, 2016. Arkansas Works continued the use of funding made available by the Patient Protection and Affordable Care Act (ACA) to extend healthcare eligibility for certain individuals between 19 and 64 years of age, with income levels at or below 138 percent of the Federal Poverty Level (FPL). Qualified Health Plans (QHPs) offered via the Health Insurance Marketplace with premium assistance paid for by the state’s Medicaid program form the foundation for the Arkansas Works demonstration financing. An additional, and at the time, novel policy aspect of Arkansas Works is the inclusion of the mandatory employer-sponsored insurance (ESI) premium assistance requirement. This requirement was implemented from January 1 to May 4, 2017 but was discontinued by state law shortly after its initiation.

In this interim evaluation, Arkansas Works is examined based on the demonstration’s aims, which are to *improve continuity of care, improve access to care, improve quality of care, and provide cost-effective healthcare*. An evaluation design was developed by an Independent Evaluator (IE) to better understand the relationship between these aims, hypotheses, and numerous outcome measures used to analyze performance. Specifically, to evaluate these aims, logic models were developed to link each proposed aim with measurable outcome metrics that could be monitored throughout the term of the demonstration. Outcome metrics were then linked to testable hypotheses which allowed for a more robust quantitative assessment. In the following sections of this executive summary, the IE provides a high-level overview of key interim findings, interpretations, policy implications and emerging recommendations based on the first three years of the demonstration.

## Continuity of Care

*Aim 1 — Arkansas Works clients will have equal or better continuity of care compared to Medicaid fee-for-service clients.* Arkansas Works is designed to create continuity of health plans and provider networks, and thus reduce gaps in coverage and improve continuity of care. The IE found that those clients in the target group had significantly shorter gaps in coverage (defined as a loss of coverage of 30 days or more) in all measurement years (MY) with the difference being 23 days in MY17 (-25.84, -19.85 CI), 6.5 days in MY18 (-9.73, -3.34 CI), and 8.7 days in MY19 (-11.10, -6.28 CI). Moreover, the majority of clients (>99%) in any plan had fewer than 2



coverage gaps, yet clients in the target group had a significantly lower percentage of clients with fewer than 2 coverage gaps in MY18 and MY19. This difference attributable to the Arkansas Works population was 0.14 percentage points in MY18 and 0.12 percentage points in MY19.

Continuity of specialist care is another key focus area for the Arkansas Works demonstration. The IE examined several specialist types including cardiologists, endocrinologists, gastroenterologists, oncologists, and pulmonologists. The IE's most noteworthy specialist care findings relate to oncologists. Clients in the target group who saw an oncologist had significantly higher rates of seeing the same oncologist across MYs. Indeed, clients in the target group were more likely to see the same oncologist by 4.3 percentage points (0.14, 8.96 CI) in MY17, by 7.2 percentage points (2.30, 12.54 CI) in MY18, and by 4.4 percentage points (-0.14, 9.36 CI) in MY19. The proportion of visits with the same cardiologist was significantly higher for clients in the target group in MY17, but not in other years. A similar trend was found for pulmonologists in MY18. Comparisons for endocrinologists and gastroenterologists were not significantly different for clients in the target and comparison groups.

#### Access to Care

*Aim 2 — Arkansas Works clients will have equal or better access to health care compared to Medicaid fee-for-service clients.* Network adequacy was assessed by geospatial analysis to identify the proportion of Arkansans without a primary care provider (PCP) within 30 miles or without one of six in-network specialists within 60 miles. Whereas network access was assessed by geospatial analysis to identify the proportion of QHP and FFS clients who resided within 30 miles of a PCP or within 60 miles of one of six in-network specialists. The IE found there are essentially no areas of the state without a primary care provider within 30 miles, and without a behavioral health/substance use disorder provider, cardiologist, and OB/GYN within 60 miles. Small portions of the state (2% or less) are without an endocrinologist, oncologist, or pulmonologist within 60 miles, but the difference in coverage between QHP and FFS networks are minimal. Similarly, Arkansas Works health plans greatly exceeded the minimum threshold set forth by CMS for Essential Community Provider (who are defined as providers that serve predominantly low-income, medically underserved individuals) network adequacy. Moreover, there was no difference in the proportion of QHP and FFS clients within 30 miles of a PCP and no difference in the proportion of clients within 60 miles of most specialists. The only observed differences were QHP and FFS clients' proximity to endocrinologists and pulmonologists, with the difference in favor of QHPs being very small. Overall, both QHP and FFS networks met the access standards for AID.

Several other access to care measures were examined by the IE, with the state performing favorably to other comparison states on Behavioral Risk Factor Surveillance System (BRFSS) survey questions during the first three years of the demonstration period. Specifically, relative to comparison states, Arkansas respondents experienced (1) increases in health plan coverage relative to comparison states, (2) increases in rates of having a personal doctor, and (3)



improvements from baseline in having routine checkups (well-visits). In 2017, Arkansas survey respondents reported higher levels of receiving a flu shot, but those levels normalized by 2019.

Moreover, quantitative analysis of administrative claims data indicated that women aged 50–64 who received a mammogram during the last 15 months prior to the end of the measurement year was higher in the target group than the comparison group. However, cervical cancer screening rates declined, and statin therapy for patients with diabetes was significantly lower in the Medicaid FFS group. Both emergent (requiring immediate medical care within 12 hours) and non-emergent (not requiring immediate medical care within 12 hours) emergency department (ED) visits did not differ between target and comparison groups.

### Quality of Care

*Aim 3 — Arkansas Works clients will have equal or better care and outcomes compared to Medicaid fee-for-service clients.* The IE examined several care and quality metrics to assess the performance of Arkansas Works. The most noteworthy findings for this Aim show favorable performance for the target population were in adherence to antipsychotic medications for individuals with schizophrenia (MY17 only) and annual monitoring for patients on persistent medications (MY17 only). In both measures, the results normalized and were not significant in MY18 or MY19. On the other hand, the rate of inpatient admissions for heart failure was significantly higher for the target group in MY18, with the target group having 7.4 (5.91, 9.22 CI) admissions per 100,000 client months vs. 3.3 (0.52, 7.23 CI) admissions per 100,000 client months in the comparison group. Rates of annual HIV/AIDS viral load test were higher in the target population in MY17 and MY18, but differences had narrowed by MY19.

There were no notable differences identified among the other care and quality metrics examined which included preventable ED visits, all-cause readmissions, diabetes complications admission rate, COPD or asthma in older adults' admission rate, asthma in younger adults' admission rate, follow-up after hospitalization for mental illness after 7 days, follow-up after hospitalization for mental illness after 30 days, persistent beta-blockers after heart attack, and Cesarean section rate.

### Cost-effective Healthcare

*Aim 4 — Services provided to Arkansas Works clients will be cost effective.* Budget neutrality is a key underlying principal to any approved Section 1115 demonstration waiver. To date, Arkansas Works meets budget neutrality and for each year included in this evaluation, the net payments made per individual with a paid premium were lower than the budget neutrality cap. Paid premium member months and wrap costs decreased annually, whereas overall costs increased 9% from 2017 to 2018 and 8% from 2018 to 2019.

Inpatient utilization, a primary driver of healthcare costs in the Medicaid program, appears to be trending in the ideal direction. The rate of medical inpatient discharges in the target group was significantly lower in MY19 despite being higher than the comparison group in MY17 and

MY18. Moreover, maternity inpatient stays per 1,000 client months were significantly lower for the target group across all measurement years. The target group had 1.57 (-1.85 to -1.31 CI) fewer maternity stays per 1,000 client months in MY17, 2.02 (-2.29 to -1.74 CI) fewer maternity stays per 1,000 client months in MY18, and 2.2 (-2.56 to -1.89 CI) fewer maternity stays per 1,000 client months in MY19. The rate of inpatient surgery discharges and total inpatient discharges were similarly lower in the target group in all measurement years suggesting that utilization trends in the first three years of the demonstration are slowing at a faster rate for Arkansas Works clients.

### Interpretations, Policy Implications, and Recommendations

Given the findings that have emerged from the IE's interim evaluation, the first three years of the demonstration appear to be having mixed results on Arkansas Works clients' access to care and continuity of care while having little to no impact on client health or overall cost trends.

The mixed increases in access appear to be consistent with access to care gains previously observed in Arkansas following the state's initial expansion period between 2013 and 2015.<sup>1</sup> With the state's adequate coverage levels through QHP networks, clients appear able to receive care when needed. The trend toward shorter duration periods of coverage gaps within the target group is also a favorable finding, though it cannot be directly attributed to any aspect of the Arkansas Works demonstration other than the eligibility expansion itself and again appears to be a trend that has continued from the state's initial coverage expansion. The increased number of clients in the target group with gaps, however, appears to be a conflicting result, identifying the source of this increase is not possible given the data used in this interim evaluation. Additional research can be done for Summative Evaluation inclusion.

Arkansas Works does not appear to be materially impacting the overall quality of care or the health of its clients, however. The effects of expansion on increased utilization of services with low or no detectable impacts on client health improvements is not a novel outcome and appears to be consistent with Arkansas Works during the observation period.<sup>2</sup> Although the demonstration remains compliant with its budget neutrality requirements, policy makers should continue to prioritize population health and quality improvement targets as material indicators of the demonstration's long-term capacity to reduce costs and eliminate low-value spending. An example of this can be seen within non-emergent ED use, where results indicate a very small difference between target and control populations. With network adequacy coverage appearing to be supportive of clients' needs and findings indicating that target populations received equal or better access to preventive care services, the state appears well positioned to impact care patterns to eliminate many ambulatory care sensitive conditions including non-emergent ED use.

From a policy perspective, greater monitoring of quality improvement and performance efforts carried out by the demonstration's QHP carriers would likely benefit efforts to improve client

health. Building on timely and accurate data submission requirements, the demonstration would likely benefit from regular and structured reviews of patient outcomes and alignment on improvement efforts with carriers. Historically, Arkansas Medicaid, its QHP carriers, and its delivery system have engaged in innovative policy solutions focused on payment reform and improving patient outcomes. With quality of care levels varying irregularly across observed measures throughout the interim evaluation period, carriers and providers would likely benefit from regular information sharing related to trends in specific patient populations or variances between providers across cost and quality measures.

Client communications could be enhanced to better inform and empower the Arkansas Works population. Highlighting access to wrap services such as non-emergency transportation and EPSDT in the QHP's new client welcome packets as well as on QHP websites should positively impact early engagement as well as access to care. Redetermination requirements should be communicated often and be easily understood, from multiple stakeholders if possible. This should positively impact the maintenance of continuous care and coverage. Furthermore, notices to clients regarding premium payment obligations should be well-defined in applicable communications, including encouragement of payments, methods of payments, tax intercept possibilities, etc. This would likely positively impact cost-effectiveness and possible future transitions to other healthcare coverages.

QHP annual wellness checkup incentive offerings should continue, and additional offerings are recommended. Furthermore, notice of any incentives should be highlighted in all client communications. Increasing prioritization of QHP care coordination, especially toward focused populations such as young adults, will likely establish positive health practices, reduce acute and chronic illnesses, and thus reduce costs.

Given the state's wide array of both urban and rural care settings, policy solutions designed to improve patient outcomes statewide will likely not be uniform and may vary by region, payer, or provider type. Policy makers should thus continue to identify where potentially avoidable costs are occurring and how the Medicaid program can continue its historically innovative efforts to improve care while reducing unnecessary costs.

Of important note, DHS released a draft demonstration extension request which addresses many of the recommendations set forth in this Interim Evaluation.

<sup>1</sup>Sommers, et al. 2016. Changes in utilization and health among low-income adults after Medicaid expansion or expanded private insurance. *JAMA Internal Medicine* 176(10):1501–1509. doi:10.1001/jamainternmed.2016.4419

<sup>2</sup>Baicker, K. 2013. The Oregon experiment—effects of Medicaid on clinical outcomes. *New England Journal of Medicine* 368(18):1713–1722. DOI: 10.1056/nejmsa1212321

## 2 GENERAL BACKGROUND INFORMATION ABOUT THE DEMONSTRATION

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Arkansas was the first state to expand Medicaid using a Section 1115 demonstration funded by the Affordable Care Act (ACA) for Premium Assistance. In September 2013, the Centers for Medicare and Medicaid Services (CMS) approved Arkansas' request for a three-year Medicaid premium assistance demonstration entitled "Arkansas Health Care Independence Program" (HCIP), commonly referred to as the "Private Option." The demonstration allowed Arkansas to support healthcare coverage for eligible individuals between 19 and 64 years of age with incomes effectively at or below 138 percent of the federal poverty level and who did not qualify for traditional Medicaid. Coverage was offered through qualified health plans (QHPs) on the Health Insurance Marketplace (Marketplace) with premium assistance from Medicaid, effective January 1, 2014, through December 31, 2016. Non-disabled, non-aged adults qualify for traditional Medicaid in Arkansas primarily through the pregnancy-related or Parent Caretaker Relative aid categories, the latter of which has an income threshold at 17% FPL.

On June 28, 2016, Governor Asa Hutchinson requested, via his letter to Secretary Burwell at the Department of Health and Human Services (DHHS), an extension and amendment application of the HCIP in accordance with legislation authorized by the Arkansas State Legislature with his concurrence entitled the *Arkansas Works Act of 2016*. CMS' approval letter for this request, dated December 8, 2016, updated the special terms and conditions (STCs), and acknowledged the demonstration project name change to "Arkansas Works."

Although additional Arkansas Works revision requests from the State of Arkansas and approvals from CMS have been formalized since, the STCs dated December 8, 2016, prevail per CMS guidance letter dated May 14, 2019, and this Interim Evaluation has been prepared in compliance with such. The employer sponsored insurance (ESI) premium assistance program is excluded from this evaluation. Although it is included in the prevailing STCs and had authorization to begin on January 1, 2017, the ESI program was eliminated by state law on May 4, 2017. CMS addressed ending the program in an amendment approval letter dated March 5, 2018, found at <https://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Waivers/1115/downloads/ar/ar-works-ca.pdf>, and was never reinstated. The minimal participation during the program's few active months would render any analysis invalid.

The table below provides an overview of key information for the Arkansas Section 1115 Demonstration Project.

Table 1: Arkansas Medicaid Section 1115 Demonstration Project Key Information

Arkansas Medicaid Section 1115 Demonstration Project Key Information	
Waiver Proposal Submitted to CMS	August 6, 2013
Waiver Proposal Approved by CMS	September 27, 2013
HCIP Implemented	October 1, 2013
HCIP Expiration	December 31, 2016
Proposed Evaluation Plan Submitted to CMS	February 20, 2014
Evaluation Plan Approved by CMS	March 24, 2014
Extension Application Submitted to CMS	July 7, 2016
Extension Application Approved by CMS	December 8, 2016
Arkansas Works Implemented	January 1, 2017
Arkansas Works Expiration	December 31, 2021
Proposed Evaluation Plan Submitted to CMS	February 6, 2017
Amendment Request Submitted to CMS	June 30, 2017
CMS Letter Reverting to December 8, 2016 STCs	May 14, 2019
Proposed Evaluation Design Submitted to CMS	December 15, 2020 and May 4, 2021
Evaluation Plan Approved by CMS	June 17, 2021
Period Included in this Interim Evaluation	January 1, 2017–December 31, 2019

### 3 EVALUATION QUESTIONS AND HYPOTHESES

Under the current Arkansas Works demonstration, the state is determined to build on HCIP's achievements and continue its goals of:

- Improving continuity of care
- Improving access to care
- Improving quality of care
- Providing cost-effective healthcare

The figure below is a visual representation of how the demonstration's goals support each other in providing healthcare coverage to qualified individuals 19 through 64 years of age with incomes at or below 138 percent of the federal poverty level.

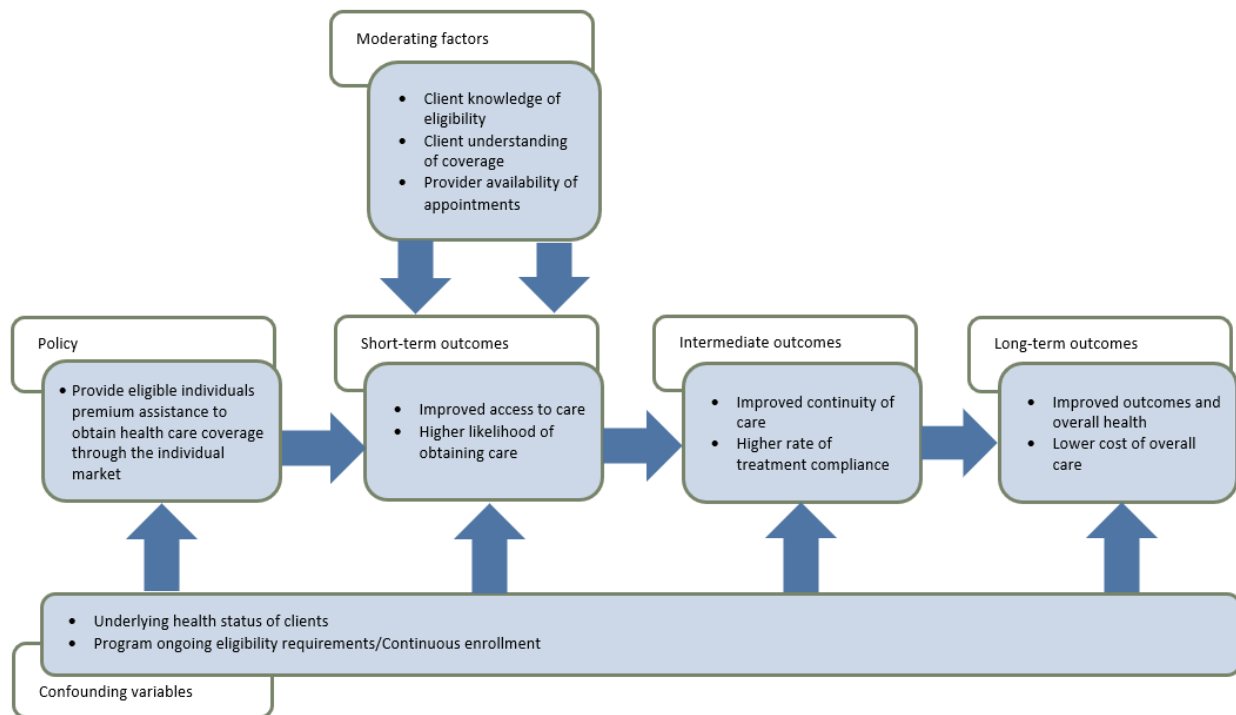


Figure 1: Evaluation Logic Model

An effective evaluation design was developed with a Measure Diagram to help clearly depict the fundamental relationship between the aims for the demonstration, hypotheses to consider, and the measures identified to analyze the performance. The diagrams below provide a visual display of measurable criteria to verify the achievement of the demonstration goals. Each aim represents how the demonstration will positively affect its clients as compared with the traditional Medicaid fee-for-service (FFS) program. The hypotheses associate specific STCs from CMS to guide the comparison, and the measures stipulate the metrics applied to each hypothesis analyzed to measure and validate the performance of the demonstration.

### 3.1 GOAL 1: IMPROVING CONTINUITY OF CARE

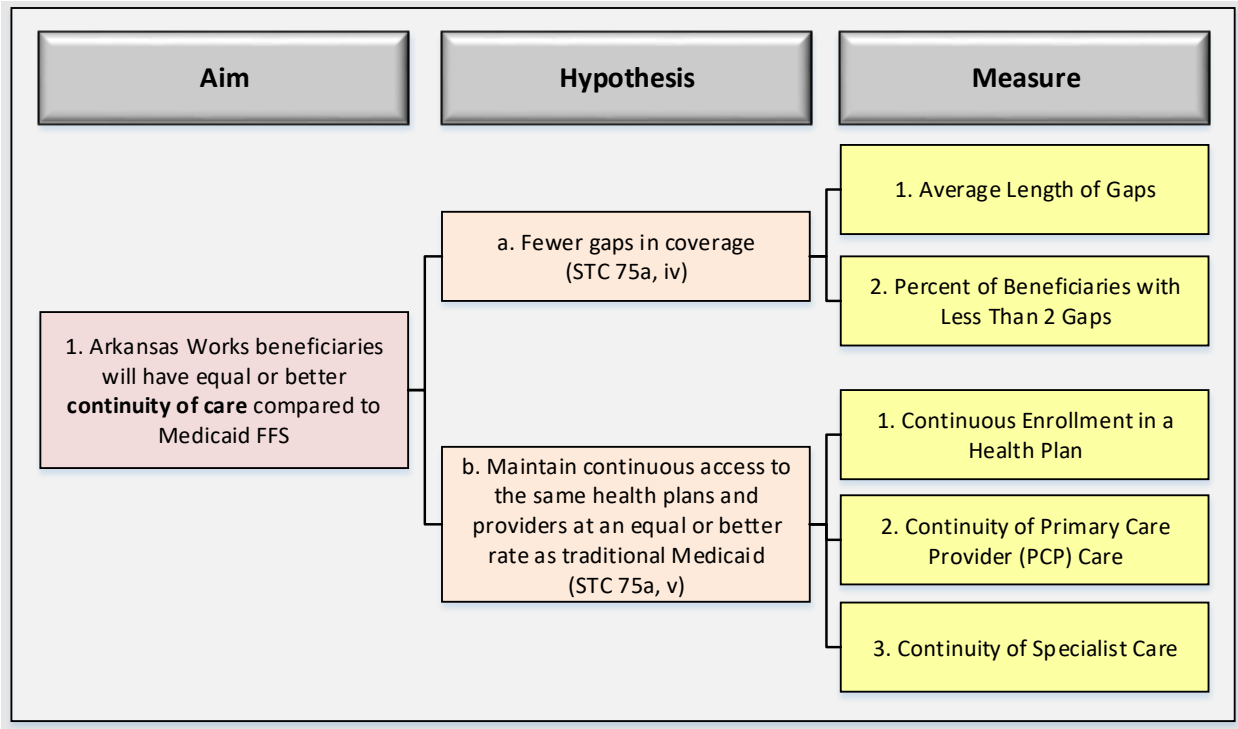


Figure 2: Measure Diagram Aim 1



### 3.2 GOAL 2: IMPROVING ACCESS TO CARE

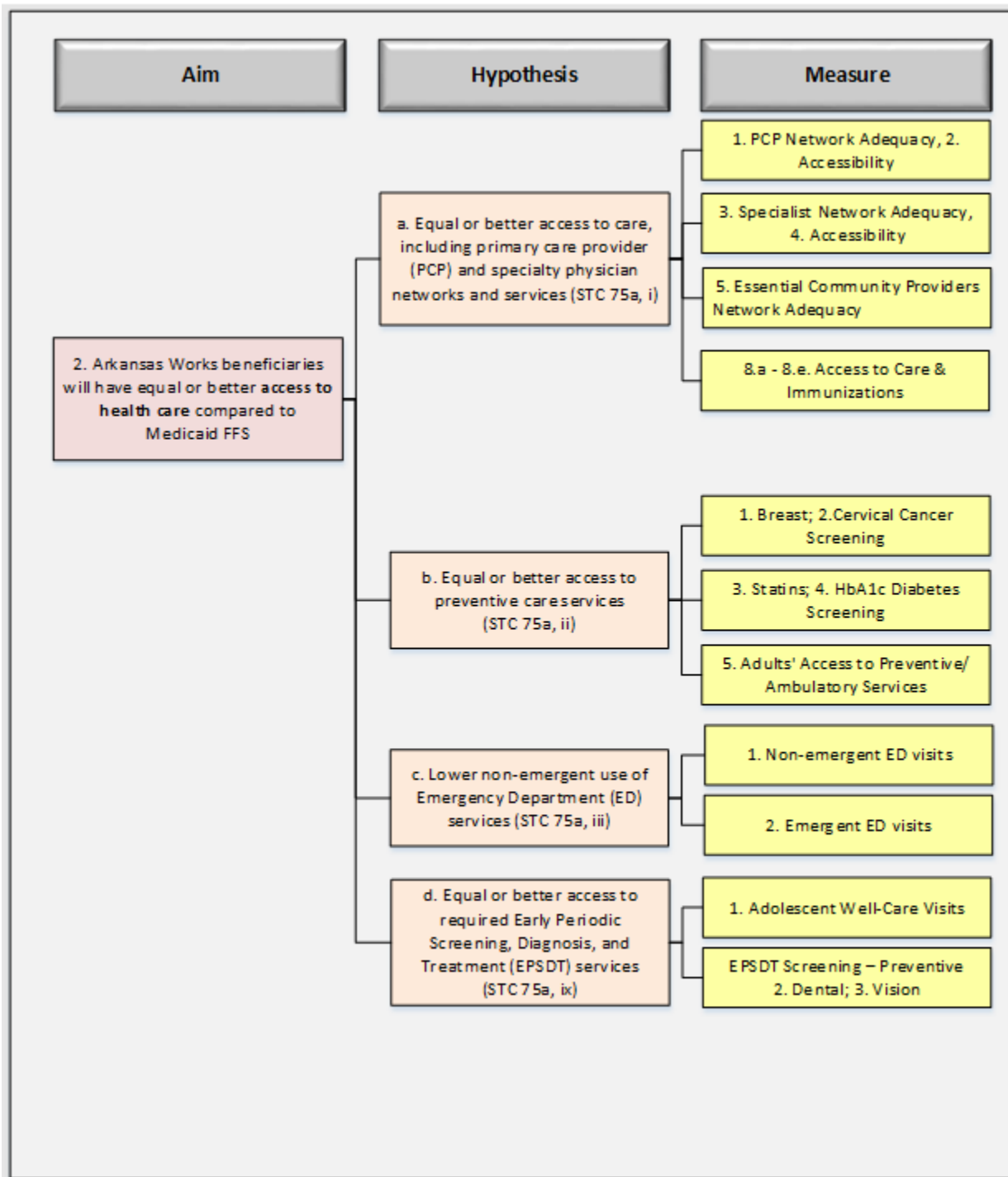


Figure 3: Measure Diagram Aim 2

### 3.3 GOAL 3: IMPROVING QUALITY OF CARE

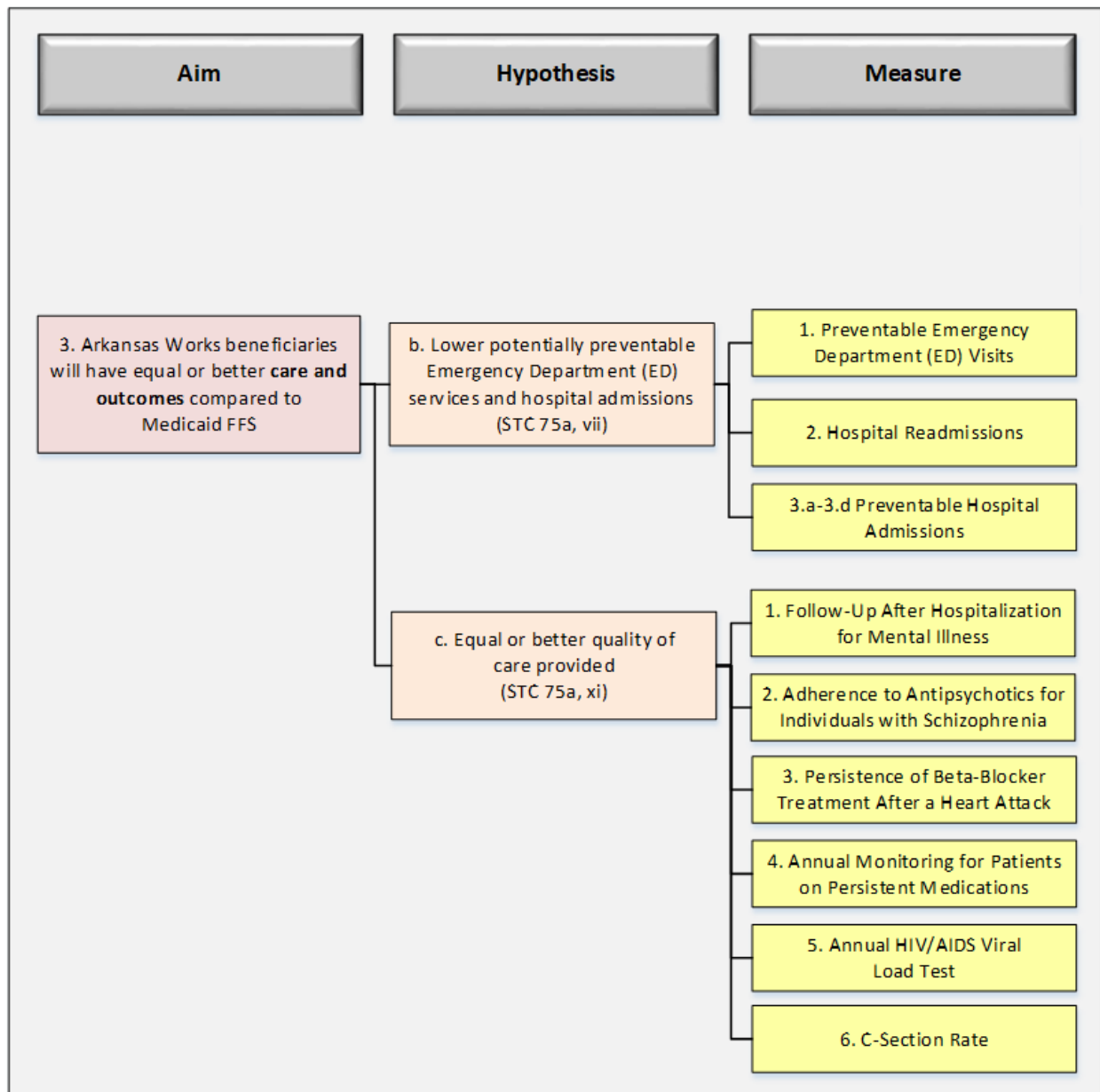


Figure 4: Measure Diagram Aim 3

### 3.4 GOAL 4: PROVIDING COST EFFECTIVE CARE

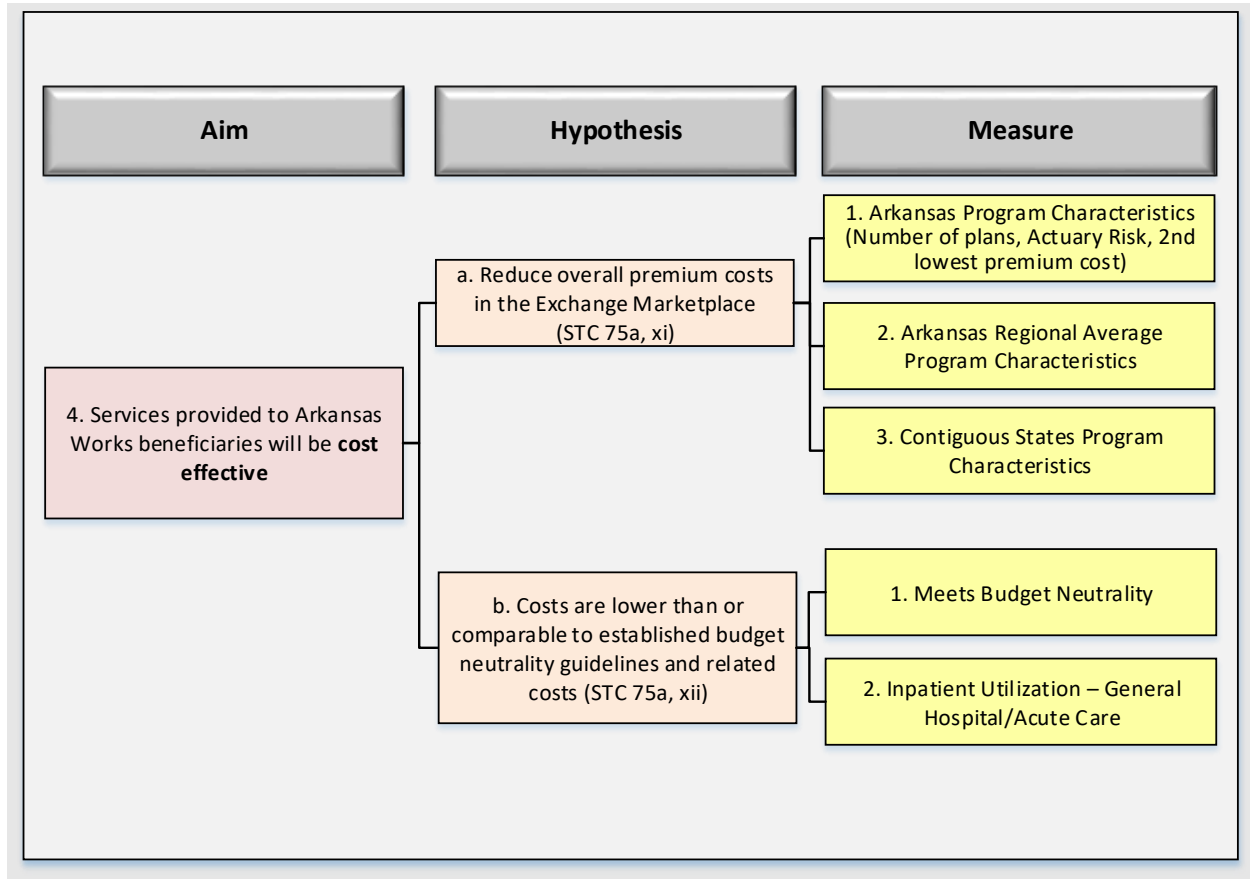


Figure 5: Measure Diagram Aim 4

## 4 METHODOLOGY

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### 4.1 EVALUATION DESIGN

The evaluation tests hypotheses of continuity, access, care and outcomes, and cost-effectiveness using data from eligibility, claims, surveys, commercial insurance, and cost reporting. Eligibility data addresses continuity of care in Aim 1, and claims-based measures address Aims 1–4. All measures are evaluated for each calendar year of the demonstration.

To address Aim 2, equal or better access to health care, BRFSS survey data is used to compare Arkansas with out-of-state comparison groups on health care access and immunization. Additionally, provider networks for Arkansas Works are compared with Arkansas Medicaid provider networks to assess network adequacy and accessibility. Claims-based measures in Aim 2 describe access to breast and cervical cancer screenings; diabetes care; and Medicaid Early and Periodic Screening, Diagnostic and Treatment (EPSDT) services; as well as classify emergency department utilization as emergent or non-emergent.<sup>1</sup>

In Aim 3, equal or better care and outcomes, nationally standardized claims-based measures of preventable hospital admissions, hospital readmissions, follow-up care for hospital admissions, and care of chronic conditions and behavioral health are used. Additionally, custom metrics measuring HIV viral load testing and rates of Cesarean section are used to assess care and outcomes in these subpopulations of interest, and preventable emergency department utilization is assessed.

To assess cost-effectiveness for Aim 4, program characteristics are compared within regions of the state, at the state level, and with contiguous states. Trends over time are shown in relation to those in other states. Program costs are compared to the budget neutrality caps stipulated by the Centers for Medicare and Medicaid Services (CMS).

To assess specific Arkansas Works policies, two measures of access to health care (Aim 2) are used to evaluate the policy of required premium contributions for clients with income >100% FPL. Two measures of continuity (Aim 1) are used to evaluate the effect of premium contributions as well as Arkansas Works' waiver of retroactive eligibility. For these measures, years 2014–2019 are analyzed to compare the periods before and after policy implementation. Expansion population adults in Arkansas who were subject to the policies are compared with those who were not.

The Arkansas Works evaluation utilizes client-level weighting for the eligibility and claims-based measures to achieve comparable target and comparison groups for analyses. For each measure, the eligible clients are weighted to achieve balance across groups on baseline covariates. When possible, measure results are compared using weighted group means in client-level models that

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<sup>1</sup> <https://wagner.nyu.edu/faculty/billings/nyued-background>

additionally adjust for previous experience in the demonstration, enrollment region, and risk score.

## 4.2 TARGET AND COMPARISON POPULATIONS

Below is a conceptual diagram of the populations addressed in the Arkansas Works evaluation.

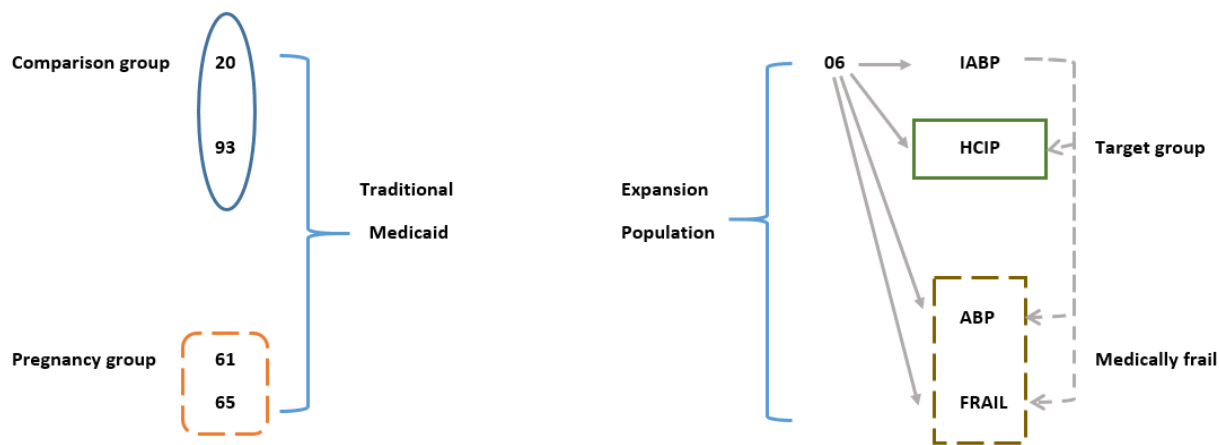


Figure 6: Diagram of Evaluation Populations

The comparison group was determined to be non-disabled adults who would have been eligible for Arkansas Medicaid, pre-expansion. It is composed of clients in the parent/caretaker relative (<17% FPL) represented by Category 20 in figure above and former foster care (no income limit) represented by Category 93 in figure above.

The target group is composed of clients in the Medicaid expansion population (aid category 06, <133% FPL, 138% FPL with 5% disregard) with a QHP from a private insurance carrier (benefit plan HCIP). Two other benefit plans within the 06-aid category identify the medically frail. The remaining benefit plan in the 06 aid category, IABP (interim alternative benefit plan), defines an interim period in which clients enrolled in Arkansas Works have services paid by Medicaid FFS before a QHP is chosen or assigned.

In Figure 6, dashed lines around pregnancy and medically frail denote that other eligibility categories in the diagram will also be allowed. Pregnancy Category 61 denotes “pregnant women, limited benefit plans” and Category 65 denotes “pregnant women, full coverage.”

Operationally, clients are assigned to the target or comparison population in each analysis year based on having at least 6 months (180 days) of eligibility in segments qualifying for the target or comparison population (Table 2). Clients in the target population cannot have any segments qualifying for the comparison population, and vice versa (no “switchers”). The pregnant and medically frail are defined as clients having one or more days of coverage in qualifying segments and at least 180 days of total coverage in the measurement year. In all populations

except the comparison population, the interim alternative benefit plan (IABP) is allowed but will not contribute towards the 180-day minimum.

Table 2: Study Population Category Combinations

Study Population	Aid Category	FMAP Code	Benefit Plan
Target <sup>1</sup>	06 - adult expansion	Y - newly eligible	HCIP, IABP <sup>3</sup>
		N - previously eligible	
		P - previously eligible, parent/caretaker	
Comparison <sup>1</sup>	20 - parent/caretaker relative	N/A	N/A
	93 - former foster care		
Pregnancy <sup>2</sup>	61 - pregnant women, limited benefit plans	N/A	LPW, PWUCH
	65 - pregnant women, full coverage		MCAID
Medically Frail <sup>2</sup>	06 - adult expansion	Y - newly eligible	ABP, FRAIL, IABP <sup>3</sup>
		N - previously eligible	
		P - previously eligible, parent/caretaker	
		N - previously eligible	
		P - previously eligible, parent/caretaker	

<sup>1</sup> Exclusive of other combinations of aid category, FMAP code, and benefit plan.

<sup>2</sup> Inclusive of other combinations of aid category, FMAP code, and benefit plan.

<sup>3</sup> The interim, FFS plan IABP (Interim Alternative Benefit Plan) is not included in the minimum eligibility period.

The following client exclusions apply to each measurement year:

- Less than 18 years of age on January 1
- 65 years of age or older on December 31
- Medicare or third-party liability claims
- Participation in a Provider-led Arkansas Shared Savings Entity (PASSE), an Arkansas created Medicaid managed care program, on or after the implementation date of March 1, 2019
- Death during the measurement year
- Overlapping eligibility segments

Another subpopulation of interest is composed of clients who were eligible for Medicaid Early and Periodic Screening, Diagnostic and Treatment (EPSDT) services as 17- or 18-year-olds who became eligible for a QHP as 19- or 20-year-olds. We define these clients as the EPSDT

population to test the hypothesis that QHP clients had at least as satisfactory access to EPSDT wrap benefits paid through the fee-for-service mechanism.

The target and comparison groups in each measurement year have approximately a 5:1 or 6:1 ratio, necessitating weighting to construct comparably sized groups for each measure.

*Table 3: Measurement year sample sizes*

Study Population	2017	2018	2019
Target	219,369	204,937	182,444
Comparison	37,153	37,154	37,155
Pregnancy	11,597	12,003	12,411

Because the IABP is considered part of Arkansas Works but as a separate health plan from the QHPs, it was necessary to specify how to address IABP segments at several levels: populations, measures for gaps in coverage, measure of health plan continuity, and claims-based measures.

*Table 4: IABP Measurement Details*

Analysis Level	IABP Segment Treatment
Populations	Exclude clients with IABP from the comparison population
Gaps in insurance coverage	Include IABP segments as insurance coverage
Continuous Enrollment in a Health Plan	IABP as a separate health plan from target and pregnancy, included with medically frail
Claims-based measures, measurement period	Include claims during IABP segments
Claims-based measures, prior year diagnoses	Include claims during IABP segments, all populations

The methods of addressing IABP segments are consistent with the rationale that IABP segments occur during a client's eligibility for Arkansas Works but are separate from enrollment into a QHP. Hence, clients with eligibility segments qualifying for the comparison population, who also have an IABP segment, are excluded from the comparison population. In the other populations (target, pregnancy, and medically frail), IABP segments are considered insurance coverage and not as gaps in coverage, and IABP is considered a separate health plan from traditional Medicaid and QHP segments.

For claims-based measures, this evaluation includes claims from IABP segments in the measurement year(s). This ensures that diagnoses and medical services from the interim period contribute to a complete picture of client experience in Arkansas Works. Similarly, the evaluation includes claims from IABP segments prior to the measurement year(s) if a claims-



based measure specifies a lookback period for prior diagnoses. Prior-year IABP segments are included for all populations.

#### **4.3 BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM**

The BRFSS is an annual survey fielded by states with assistance from the Centers for Disease Control and Prevention (CDC). The core survey includes questions on health care access and immunization; these are assessed to compare Arkansas with non-demonstration, traditional Medicaid expansion states of the following: Kentucky, Ohio, Pennsylvania, and West Virginia were used per CMS recommendation.

#### **4.4 EVALUATION PERIOD**

The full evaluation period is January 1, 2017, through December 31, 2021. The period covered by this evaluation, the Draft Interim Evaluation, is January 1, 2017, through December 31, 2019. This evaluation does not include data collected from the Client Engagement Satisfaction Surveys nor does it include analysis regarding non-emergency medical transportation (NEMT), but these analyses will be included the summative evaluation. The specific evaluations associated with the full evaluation are outlined below:

- 1. Draft Interim Evaluation**

Per STC 76, this evaluation will be submitted by June 30, 2021, and adhere to all STC requirements. The time period of data included in this evaluation will be January 1, 2017, through December 31, 2019.

- 2. Final Interim Evaluation**

Per STC 76, this final version of Item 1 above will be submitted within 30 days after receipt of CMS' comments and adhere to all STC requirements. The time period of data included in this evaluation will remain as stipulated in Item 1 above.

- 3. Summative Evaluation**

Per CMS recommendation, a single summative evaluation will replace all summative evaluations stipulated in the STCs and will be submitted by June 30, 2023. The time period of data included in this evaluation will be January 1, 2017, through December 31, 2021, and any outstanding assessments due to data lags will be documented.

## 4.5 EVALUATION MEASURES

This section identifies the specific measures used in this interim evaluation.

### 4.5.1 Continuity of Coverage and Care Measures

#### Aim 1. Continuity of Coverage and Care

*Hypothesis 1.a. Arkansas Works clients will have fewer or the same gaps in coverage compared to Medicaid FFS. (STC 75a, iv)*

Measure 1.a.1	Average Length of Gaps in Coverage
Description:	The average length of gaps in coverage, in months, during the measurement period
Numerator:	Duration of gaps in all coverage, in months
Denominator:	Number of gaps in all coverage
Exclusion Criteria:	None
Continuous Enrollment:	Refer to population definition
Data Source(s):	Medicaid Management Information System (MMIS) eligibility and enrollment files
Measure Steward(s):	Division of Medical Services (DMS) Homegrown
Comparison Group:	Medicaid FFS comparison group
Comparison Method(s):	<ul style="list-style-type: none"><li>• Inverse probability of treatment weight (IPTW)</li><li>• Client-level weighted model</li><li>• Pre-post for 2014–2019</li></ul>
Statistic to Be Tested:	<ul style="list-style-type: none"><li>• Difference in group means</li></ul>
National Benchmark:	None

Measure 1.a.2	Percent of Clients with Less Than 2 Gaps in Coverage
Description:	Percent of clients with less than 2 gaps in coverage during the measurement period
Numerator:	Clients with 0 or 1 gaps in all coverage

<b>Denominator:</b>	Number of clients
<b>Exclusion Criteria:</b>	None
<b>Continuous Enrollment:</b>	Refer to population definition
<b>Data Source(s):</b>	MMIS eligibility and enrollment files
<b>Measure Steward(s):</b>	DMS Homegrown
<b>Comparison Group:</b>	Medicaid FFS comparison group
<b>Comparison Method(s):</b>	<ul style="list-style-type: none"> <li>• IPTW</li> <li>• Client-level weighted model</li> <li>• Pre-post for 2014–2019</li> </ul>
<b>Statistic to Be Tested:</b>	<ul style="list-style-type: none"> <li>• Difference in group percentages</li> </ul>
<b>National Benchmark:</b>	None

*Hypothesis 1.b. Maintain continuous access to the same health plans and providers at an equal or better rate as traditional Medicaid (STC 75a, v)*

<b><i>Measure 1.b.1</i></b>	<b>Continuous Enrollment in a Health Plan</b>
<b>Definition:</b>	Average number of months in a row enrolled in a health plan
<b>Numerator:</b>	Number of months enrolled in each health plan by segment
<b>Denominator:</b>	Number of segments per health plan
<b>Exclusion Criteria:</b>	None
<b>Continuous Enrollment:</b>	Refer to population definition
<b>Data Source(s):</b>	MMIS eligibility and QHP enrollment files
<b>Measure Steward(s):</b>	DMS Homegrown

<b>Comparison Group:</b>	Medicaid FFS comparison group
<b>Comparison Method(s):</b>	<ul style="list-style-type: none"> <li>• IPTW</li> <li>• Client-level weighted model</li> </ul>
<b>Statistic to Be Tested:</b>	<ul style="list-style-type: none"> <li>• Difference in group means</li> </ul>
<b>National Benchmark:</b>	None

<b>Measure 1.b.2</b>	<b>Continuity of Primary Care Provider (PCP) Care</b>
<b>Definition:</b>	Consistent use of the same primary care provider over time—proportion of primary care visits with same PCP
<b>Numerator:</b>	Primary care provider visits with the same primary care provider during the measurement period
<b>Denominator:</b>	Primary care provider visits during the measurement period
<b>Exclusion Criteria:</b>	None
<b>Continuous Enrollment:</b>	No more than 1 gap in continuous enrollment of up to 45 days or 1 month during the measurement year
<b>Data Source(s):</b>	MMIS eligibility and demographic files linked to MMIS and QHP claims
<b>Measure Steward(s):</b>	DMS Homegrown
<b>Comparison Group:</b>	Medicaid FFS comparison group
<b>Comparison Method(s):</b>	<ul style="list-style-type: none"> <li>• IPTW</li> <li>• Client-level weighted model</li> </ul>
<b>Statistic to Be Tested:</b>	<ul style="list-style-type: none"> <li>• Difference in group percentages</li> </ul>
<b>National Benchmark:</b>	None

<b>Measure 1.b.3</b>	<b>Continuity of Specialist Care</b>
<b>Definition:</b>	Consistent use of the same specialist provider over time—proportion of type-specific, same-specialist visits over time

<b>Numerator:</b>	Specialty care provider visits with the same specialty provider, within specialty type during the measurement period
<b>Denominator:</b>	Specialty care provider visits during the measurement period
<b>Exclusion Criteria:</b>	None
<b>Continuous Enrollment:</b>	No more than 1 gap in continuous enrollment of up to 45 days or 1 month during the measurement year
<b>Data Source(s):</b>	MMIS eligibility and demographic files linked to MMIS and QHP claims
<b>Measure Steward(s):</b>	DMS Homegrown
<b>Comparison Group:</b>	Medicaid FFS comparison group
<b>Comparison Method(s):</b>	<ul style="list-style-type: none"> <li>• IPTW</li> <li>• Client-level weighted model</li> </ul>
<b>Statistic to Be Tested:</b>	<ul style="list-style-type: none"> <li>• Difference in group percentages</li> </ul>
<b>National Benchmark:</b>	None

#### 4.5.2 Access to Health Care Measures

##### **Aim 2. Access to Health Care**

*Hypothesis 2.a. Arkansas Works clients will have equal or better access to care including primary care provider (PCP) and specialty physician networks and services (STC 75a, i)*

<b>Measure 2.a.1</b>	<b>PCP Network Adequacy</b>
<b>Definition:</b>	Adequacy of primary care provider network for enrolled populations—proportion of service area without primary care coverage within 30 miles
<b>Numerator:</b>	Number of square miles in Arkansas without a primary care provider within 30 miles.
<b>Denominator:</b>	Total number of square miles in state of Arkansas.
<b>Exclusion Criteria:</b>	N/A
<b>Continuous Enrollment:</b>	N/A
<b>Data Source(s):</b>	Carrier/QHP Templates

<b>Measure Steward(s):</b>	DMS Homegrown
<b>Comparison Group:</b>	Arkansas Medicaid FFS PCP provider network
<b>Comparison Method(s):</b>	Geospatial analysis
<b>Statistic to Be Tested:</b>	N/A
<b>National Benchmark:</b>	None

<b>Measure 2.a.2</b>	<b>PCP Network Accessibility</b>
<b>Definition:</b>	Accessibility of primary care provider network for enrolled populations—proportion of clients with primary care accessible within 30 miles
<b>Numerator:</b>	Number of clients with primary care provider within 30 miles
<b>Denominator:</b>	Total number of clients
<b>Exclusion Criteria:</b>	N/A
<b>Continuous Enrollment:</b>	N/A
<b>Data Source(s):</b>	Carrier/QHP Templates
<b>Measure Steward(s):</b>	DMS Homegrown
<b>Comparison Group:</b>	Arkansas Medicaid FFS PCP provider network
<b>Comparison Method(s):</b>	Geospatial analysis
<b>Statistic to Be Tested:</b>	N/A
<b>National Benchmark:</b>	None

Measure 2.a.3	Specialist Network Adequacy
Definition:	Adequacy of specialist provider network for enrolled populations—proportion of service area without specialist coverage within 60 miles
Numerator:	Number of square miles in Arkansas without specialist coverage within 60 miles
Denominator:	Total number of square miles in Arkansas
Exclusion Criteria:	N/A
Continuous Enrollment:	N/A
Data Source(s):	Carrier/QHP Templates
Measure Steward(s):	DMS Homegrown
Comparison Group:	Arkansas Medicaid FFS specialist provider network
Comparison Method(s):	Geospatial analysis
Statistic to Be Tested:	N/A
National Benchmark:	None

Measure 2.a.4	Specialist Network Accessibility
Definition:	Accessibility of specialist network for enrolled populations—proportion of clients with specialist accessible within 60 miles
Numerator:	Number of clients with a specialist accessible within 60 miles
Denominator:	Total number of clients
Exclusion Criteria:	N/A



<b>Continuous Enrollment:</b>	N/A
<b>Data Source(s):</b>	Carrier/QHP Templates
<b>Measure Steward(s):</b>	DMS Homegrown
<b>Comparison Group:</b>	Arkansas Medicaid FFS specialist provider network
<b>Comparison Method(s):</b>	Geospatial analysis
<b>Statistic to Be Tested:</b>	N/A
<b>National Benchmark:</b>	None

<b>Measure 2.a.5</b>	<b>Essential Community Providers (ECP) Network Adequacy</b>
<b>Definition:</b>	Adequacy of essential community providers
<b>Numerator:</b>	Outputs from federal NA/ECP template
<b>Denominator:</b>	Outputs from federal NA/ECP template
<b>Exclusion Criteria:</b>	N/A
<b>Continuous Enrollment:</b>	N/A
<b>Data Source(s):</b>	Carrier/QHP Templates
<b>Measure Steward(s):</b>	DMS Homegrown
<b>Comparison Group:</b>	Arkansas Medicaid FFS ECP provider network
<b>Comparison Method(s):</b>	Geospatial analysis
<b>Statistic to Be Tested:</b>	N/A
<b>National Benchmark:</b>	None

<b>Measure 2.a.8.a</b>	<b>Access to Care and Immunizations: Have Health Care Coverage</b>
<b>Definition:</b>	Have any kind of health care coverage
<b>Numerator:</b>	Survey respondents who responded yes to any kind of health care coverage
<b>Denominator:</b>	Survey respondents to HLTHPLN1 question
<b>Exclusion Criteria:</b>	N/A
<b>Continuous Enrollment:</b>	N/A
<b>Data Source(s):</b>	BRFSS
<b>Measure Steward(s):</b>	CDC-BRFSS
<b>Comparison Group:</b>	Adults age 19–64 with income <138% FPL in comparison states
<b>Comparison Method(s):</b>	Differences-in-differences (DiD)
<b>Statistic to Be Tested:</b>	DiD estimator
<b>National Benchmark:</b>	N/A

<b>Measure 2.a.8.b</b>	<b>Access to Care and Immunizations: Have a Personal Doctor</b>
<b>Definition:</b>	Have a personal doctor or health care provider
<b>Numerator:</b>	Survey respondents with one or more personal health care providers
<b>Denominator:</b>	Survey respondents to PERSDOC2 question
<b>Exclusion Criteria:</b>	N/A
<b>Continuous Enrollment:</b>	N/A
<b>Data Source(s):</b>	BRFSS

<b>Measure Steward(s):</b>	CDC-BRFSS
<b>Comparison Group:</b>	Adults age 19–64 with income <138% FPL in comparison states
<b>Comparison Method(s):</b>	Differences-in-differences
<b>Statistic to Be Tested:</b>	DiD estimator
<b>National Benchmark:</b>	N/A

<b>Measure 2.a.8.c</b>	<b>Access to Care and Immunizations: Last Routine Checkup</b>
<b>Definition:</b>	Last routine checkup within 12 months
<b>Numerator:</b>	Survey respondents who had their last routine checkup within the past 12 months
<b>Denominator:</b>	Survey respondents to CHECKUP1 question
<b>Exclusion Criteria:</b>	N/A
<b>Continuous Enrollment:</b>	N/A
<b>Data Source(s):</b>	BRFSS
<b>Measure Steward(s):</b>	CDC-BRFSS
<b>Comparison Group:</b>	Adults age 19–64 with income <138% FPL in comparison states
<b>Comparison Method(s):</b>	Differences-in-differences
<b>Statistic to Be Tested:</b>	DiD estimator
<b>National Benchmark:</b>	N/A

Measure 2.a.8.d	Access to Care and Immunizations: Avoided Care Due to Cost
Definition:	Avoided care in the last 12 months due to cost
Numerator:	Survey respondents who needed but could not see a doctor because of cost within the past 12 months
Denominator:	Survey respondents to MEDCOST question
Exclusion Criteria:	N/A
Continuous Enrollment:	N/A
Data Source(s):	BRFSS
Measure Steward(s):	CDC-BRFSS
Comparison Group:	Adults age 19–64 with income <138% FPL in comparison states
Comparison Method(s):	Differences-in-differences
Statistic to Be Tested:	DiD estimator
National Benchmark:	N/A

Measure 2.a.8.e	Access to Care and Immunizations: Flu Vaccine
Definition:	Received a flu vaccine in the past 12 months
Numerator:	Survey respondents who received a flu vaccine within the past 12 months
Denominator:	Survey respondents to questions FLUSHOT6 (2013–2018) and FLUSHOT5 (2011–2012)
Exclusion Criteria:	N/A
Continuous Enrollment:	N/A
Data Source(s):	BRFSS

<b>Measure Steward(s):</b>	CDC-BRFSS
<b>Comparison Group:</b>	Adults age 19–64 with income <138% FPL in comparison states
<b>Comparison Method(s):</b>	Differences-in-differences
<b>Statistic to Be Tested:</b>	DiD estimators
<b>National Benchmark:</b>	N/A

*Hypothesis 2.b. Arkansas Works clients will have equal or better access to preventive care services (STC 75a, ii)*

<b>Measure 2.b.1</b>	<b>Breast Cancer Screening (BCS)</b>
<b>Definition:</b>	The percentage of women 50–64 years of age who had a mammogram to screen for breast cancer
<b>Numerator:</b>	Numerator includes number of women with one or more mammograms during the measurement year or the 15 months prior to the measurement year.
<b>Denominator:</b>	Denominator includes number of women 50–64 years of age on the anchor (last) date of the measurement year.
<b>Exclusion Criteria:</b>	Clients with hospice care
<b>Continuous Enrollment:</b>	October 1 two years prior to the measurement year through December 31 of the measurement year. No more than 45 days or a 1-month gap of coverage during each full calendar year of continuous enrollment. No gaps in enrollment are allowed from October 1 through December 31, two years prior to the measurement year. Anchor date: December 31 of the measurement year.
<b>Data Source(s):</b>	MMIS and QHP claims data
<b>Measure Steward(s):</b>	NCQA – BCS-AD (Adult) in Medicaid Adult Core Set
<b>Comparison Group:</b>	Medicaid FFS comparison group
<b>Comparison Method(s):</b>	<ul style="list-style-type: none"> <li>• IPTW</li> <li>• Client-level weighted model</li> </ul>

<b>Statistic to Be Tested:</b>	<ul style="list-style-type: none"> <li>Difference in group means</li> </ul>
<b>National Benchmark:</b>	Medicaid Adult Core Set FFY 2018–2020, measurement years 2017–2019
<b>Deviation(s):</b>	Maximum age truncated from 75 to 64. Paid claims only

<b>Measure 2.b.2</b>	<b>Cervical Cancer Screening (CCS)</b>
<b>Definition:</b>	The percentage of women ages 21–64 who were screened for cervical cancer
<b>Numerator:</b>	<p>The number of women who were screened for cervical cancer, as defined by the following:</p> <ul style="list-style-type: none"> <li>-cervical cytology performed during the measurement year or the two years prior to the measurement year</li> <li>-or cervical cytology/human papillomavirus (HPV) co-testing performed during the measurement year or the four years prior to the measurement year, for women who were at least 30 years old on the date of both tests</li> </ul>
<b>Denominator:</b>	Women ages 24–64 as of December 31 of the measurement year
<b>Exclusion Criteria:</b>	Clients with hospice care. Implement optional exclusion: Hysterectomy with no residual cervix, cervical agenesis, or acquired absence of cervix any time during the client’s history through December 31 of the measurement year
<b>Continuous Enrollment:</b>	No more than one gap in enrollment of up to 45 days or 1 month during each year of continuous enrollment. Anchor date: December 31 of the measurement year.
<b>Data Source(s):</b>	MMIS and QHP claims data
<b>Measure Steward(s):</b>	NCQA – CCS-AD in Medicaid Adult Core Set
<b>Comparison Group:</b>	Medicaid FFS comparison group
<b>Comparison Method(s):</b>	<ul style="list-style-type: none"> <li>IPTW</li> <li>Client-level weighted model</li> </ul>
<b>Statistic to Be Tested:</b>	<ul style="list-style-type: none"> <li>Difference in group means</li> </ul>
<b>National Benchmark:</b>	Medicaid Adult Core Set FFY 2018–2020, measurement years 2017–2019
<b>Deviation(s):</b>	Paid claims only

Measure 2.b.3	Statin Therapy for Patients with Diabetes (SPD)
Definition:	The percentage of clients 40–64 years of age during the measurement year with diabetes who do not have clinical atherosclerotic cardiovascular disease (ASCVD) who were dispensed at least one statin medication of any intensity during the measurement year
Numerator:	Clients who were dispensed at least one statin medication of any intensity during the measurement year
Denominator:	Clients 40–64 years of age during the measurement year with diabetes who do not have clinical atherosclerotic cardiovascular disease (ASCVD)
Exclusion Criteria:	Clients with hospice care. Clients with cardiovascular disease identified by event or diagnosis; diagnosis of pregnancy; in vitro fertilization; dispensed clomiphene; ESRD without telehealth; cirrhosis; or myalgia, myositis, myopathy, or rhabdomyolysis.
Continuous Enrollment:	The measurement year and the year prior to the measurement year. No more than one gap in enrollment of up to 45 days or 1 month during each year of continuous enrollment. Anchor date: December 31 of the measurement year.
Data Source(s):	MMIS and QHP claims data
Measure Steward(s):	NCQA – Healthcare Effectiveness Data and Information Set (HEDIS) SPD
Comparison Group:	Medicaid FFS comparison group
Comparison Method(s):	<ul style="list-style-type: none"> <li>• IPTW</li> <li>• Client-level weighted model</li> </ul>
Statistic to Be Tested:	<ul style="list-style-type: none"> <li>• Difference in group means</li> </ul>
National Benchmark:	HEDIS Medicaid 2017–2019 national rates
Deviation(s):	Upper end of age range truncated from 75 to 64. Paid claims only



Measure 2.b.4	Comprehensive Diabetes Care: Hemoglobin A1c Testing
Definition:	The percentage of clients 18–64 years of age with diabetes (type 1 and type 2) who had Hemoglobin A1c (HbA1c) testing performed
Numerator:	Clients with an HbA1c test performed during the measurement year
Denominator:	Clients identified as having diabetes during the measurement year or the year prior to the measurement year
Exclusion Criteria:	Clients with hospice care
Continuous Enrollment:	No more than 1 gap in continuous enrollment of up to 45 days or 1 month during the measurement year. Anchor date: December 31 of the measurement year.
Data Source(s):	MMIS and QHP claims data
Measure Steward(s):	NCQA – HA1C-AD in Medicaid Adult Core Set
Comparison Group:	Medicaid FFS comparison group
Comparison Method(s):	<ul style="list-style-type: none"> <li>• IPTW</li> <li>• Client-level weighted model</li> </ul>
Statistic to Be Tested:	<ul style="list-style-type: none"> <li>• Difference in group means</li> </ul>
National Benchmark:	Medicaid Adult Core Set FFY 2018–2019, measurement years 2017–2018. HEDIS Medicaid 2019 national rate
Deviation(s):	Upper end of age range truncated from 75 to 64. Paid claims only.

Measure 2.b.5	Adults' Access to Preventive/Ambulatory Services (AAP)
Definition:	The percentage of clients 20 years and older who had an ambulatory or preventive care visit during the measurement year
Numerator:	One or more ambulatory or preventive care visits during the measurement year
Denominator:	The eligible population: age 20 years and older as of December 31 of the measurement year

<b>Exclusion Criteria:</b>	Clients with hospice care
<b>Continuous Enrollment:</b>	No more than 1 gap in continuous enrollment of up to 45 days or 1 month during the measurement year. Anchor date: December 31 of the measurement year.
<b>Data Source(s):</b>	MMIS and QHP claims data
<b>Measure Steward(s):</b>	NCQA – HEDIS AAP
<b>Comparison Group:</b>	Medicaid FFS comparison group
<b>Comparison Method(s):</b>	<ul style="list-style-type: none"> <li>• IPTW</li> <li>• Client-level weighted model</li> <li>• Pre-post for 2014–2019</li> </ul>
<b>Statistic to Be Tested:</b>	<ul style="list-style-type: none"> <li>• Difference in group means</li> </ul>
<b>National Benchmark:</b>	None
<b>Deviation(s):</b>	Upper end of age range truncated to 64. Paid claims only.

*Hypothesis 2.c. Arkansas Works clients will have equal or lower use of non-emergent services (STC 75a, iii)*

<b>Measure 2.c.1</b>	<b>Non-Emergent Emergency Department (ED) Visits</b>
<b>Definition:</b>	Non-Emergent ED visits as a percentage of all classified ED visits using the New York University (NYU) ED algorithm
<b>Numerator:</b>	Non-emergent ED visits
<b>Denominator:</b>	Total ED visits classified by the NYU algorithm
<b>Exclusion Criteria:</b>	Injury, mental health, alcohol, and drug-related diagnoses
<b>Continuous Enrollment:</b>	Refer to population definition
<b>Data Source(s):</b>	MMIS and QHP claims data
<b>Measure Steward(s):</b>	NYU ED algorithm
<b>Comparison Group:</b>	Medicaid FFS comparison group

Comparison Method(s):	<ul style="list-style-type: none"> <li>• IPTW</li> <li>• Client-level weighted model</li> <li>• Pre-post for 2014–2019</li> </ul>
Statistic to Be Tested:	Difference in group means
National Benchmark:	None

Measure 2.c.2	Emergent Emergency Department (ED) Visits
Definition:	Emergent ED Visits as a percentage of all classified ED visits using the NYU ED algorithm
Numerator:	Emergent ED visits
Denominator:	Total ED visits classified by the NYU algorithm
Exclusion Criteria:	Injury, mental health, alcohol, and drug-related diagnoses
Continuous Enrollment:	Refer to population definition
Data Source(s):	MMIS and QHP claims data
Measure Steward(s):	NYU ED algorithm
Comparison Group:	Medicaid FFS comparison group
Comparison Method(s):	<ul style="list-style-type: none"> <li>• IPTW</li> <li>• Client-level weighted model</li> <li>• Pre-post for 2014–2019</li> </ul>
Statistic to Be Tested:	Difference in group means
National Benchmark:	None

*Hypothesis 2.d. Arkansas Works clients will have equal or better access to required Early Periodic Screening, Diagnosis, and Treatment (EPSDT) services (STC 75a, ix)*

Measure 2.d.1	Adolescent Well-Care Visits (AWC)
Definition:	Clients 19–20 years of age who had at least one comprehensive well-care visit with a PCP or an obstetrician/gynecologist practitioner during the measurement year

<b>Numerator:</b>	Clients who received a well-care visit during the measurement year
<b>Denominator:</b>	Clients enrolled in Medicaid FFS and eligible for EPSDT services at ages 17–18 who enrolled in Arkansas Works at ages 19–20
<b>Exclusion Criteria:</b>	Clients with hospice care
<b>Continuous Enrollment:</b>	No more than 1 gap in continuous enrollment of up to 45 days or 1 month during the measurement year. Anchor date: December 31 of the measurement year.
<b>Data Source(s):</b>	MMIS and QHP claims data
<b>Measure Steward(s):</b>	DMS Homegrown based on NCQA – HEDIS AWC
<b>Comparison Group:</b>	Clients in the treatment group, during the 1–2 years prior to enrolling in Arkansas Works
<b>Comparison Method(s):</b>	Pre-post comparison
<b>Statistic to Be Tested:</b>	Paired t-test
<b>National Benchmark:</b>	None
<b>Deviation(s):</b>	Ages limited to 19–20 on December 31 of the measurement year, to 18–19 on December 31 in the year prior to the measurement year, and to 17–18 on December 31 two years prior to the measurement year. Clients not eligible for EPSDT services during their Medicaid FFS eligibility are not eligible for the denominator. Paid claims only. Measure calculations will be run on multiple years for the same eligible clients.

<b>Measure 2.d.2</b>	<b>EPSDT Screening – Preventive Dental Visits</b>
<b>Definition:</b>	Percent of eligible clients who received at least one preventive dental service
<b>Numerator:</b>	Clients who received a preventive dental service
<b>Denominator:</b>	Clients enrolled in Medicaid FFS and eligible for EPSDT services at ages 17–18 who enrolled in Arkansas Works at ages 19–20
<b>Exclusion Criteria:</b>	None

<b>Continuous Enrollment:</b>	Refer to EPSDT population definition
<b>Data Source(s):</b>	MMIS claims and dental encounter data
<b>Measure Steward(s):</b>	DMS Homegrown based on Medicaid Child Core Set CMS Pediatric Dental-Child (PDENT-CH), Form CMS-416 (EPSDT)
<b>Comparison Group:</b>	Clients in the treatment group, during the 1–2 years prior to enrolling in Arkansas Works
<b>Comparison Method(s):</b>	Pre-post comparison
<b>Statistic to Be Tested:</b>	Paired t-test
<b>National Benchmark:</b>	None
<b>Deviation(s):</b>	Minimum age on January 1 of the previous year increased from 1 to 17. Measure calculations will be run on multiple years for eligible clients.

<b>Measure 2.d.3</b>	<b>EPSDT Screening – Preventive Vision</b>
<b>Definition:</b>	Percent of eligible clients who received at least one preventive vision screen
<b>Numerator:</b>	Clients who received a preventive vision screen
<b>Denominator:</b>	Clients enrolled in Medicaid FFS and eligible for EPSDT services at ages 17–18 who enrolled in Arkansas Works at ages 19–20
<b>Exclusion Criteria:</b>	None
<b>Continuous Enrollment:</b>	Refer to EPSDT population definition
<b>Data Source(s):</b>	MMIS and QHP claims data
<b>Measure Steward(s):</b>	DMS Homegrown based on Medicaid Child Core Set CMS PDENT-CH with vision codes
<b>Comparison Group:</b>	Clients in the treatment group, during the 1–2 years prior to enrolling in Arkansas Works
<b>Comparison Method(s):</b>	Pre-post comparison

<b>Statistic to Be Tested:</b>	Paired t-test
<b>National Benchmark:</b>	None
<b>Deviation(s):</b>	Minimum age on January 1 of the previous year increased from 1 to 17. Measure calculations will be run on multiple years for eligible clients.

#### 4.5.3 Quality of Care and Outcomes Measures

##### **Aim 3. Care and Outcomes**

*Hypothesis 3.b. Arkansas Works clients will have lower potentially preventable emergency department services and hospital admissions (STC 75a, vii)*

<b>Measure 3.b.1</b>	<b>Preventable Emergency Department (ED) Visits</b>
<b>Definition:</b>	Percentage of emergency visits classified as preventable by the NYU ED algorithm
<b>Numerator:</b>	Emergency department visits classified as preventable/avoidable
<b>Denominator:</b>	Sum of emergency department visits classified as preventable/avoidable and not preventable/avoidable (equals all visits that are emergent, ED care needed)
<b>Exclusion Criteria:</b>	Injury, mental health, alcohol, and drug-related diagnoses
<b>Continuous Enrollment:</b>	Refer to population definition
<b>Data Source(s):</b>	MMIS and QHP claims data
<b>Measure Steward(s):</b>	NYU ED algorithm
<b>Comparison Group:</b>	Medicaid FFS comparison group
<b>Comparison Method(s):</b>	<ul style="list-style-type: none"> <li>• IPTW</li> <li>• Client-level weighted model</li> </ul>
<b>Statistic to Be Tested:</b>	Difference in group means
<b>National Benchmark:</b>	None

<b>Measure 3.b.2</b>	<b>Plan All-Cause Readmissions (PCR)</b>
<b>Definition:</b>	For clients 18 to 64, the number of acute inpatient stays during the measurement year that were followed by an unplanned acute readmission for any diagnosis within 30 days and the predicted probability of an acute readmission.
<b>Numerator:</b>	Acute readmissions for any diagnosis within 30 days of the Index Discharge Date. Exclude admissions with a principal diagnosis of pregnancy, a condition originating in the perinatal period, or planned admissions.
<b>Denominator:</b>	All acute inpatient discharges for clients who had one or more discharges on or between January 1 and December 1 of the measurement year
<b>Exclusion Criteria:</b>	Hospital stays where the Index Admission Date is the same as the Index Discharge Date, where the client died during the stay, or with a principal diagnosis of pregnancy or a condition originating in the perinatal period
<b>Continuous Enrollment:</b>	365 days prior to the Index Discharge Date through 30 days after the Index Discharge Date. No more than 1 gap of 45 days or 1 month.
<b>Data Source(s):</b>	MMIS and QHP claims data
<b>Measure Steward(s):</b>	NCQA – PCR-AD in Medicaid Adult Core Set
<b>Comparison Group:</b>	Medicaid FFS comparison group
<b>Comparison Method(s):</b>	<ul style="list-style-type: none"> <li>• IPTW</li> <li>• Client-level weighted model</li> </ul>
<b>Statistic to Be Tested:</b>	Difference in group mean readmissions per admission
<b>National Benchmark:</b>	Medicaid Adult Core Set FFY 2018–2020 for measurement years 2017–2019
<b>Deviation(s):</b>	Paid claims only

<b>Measure 3.b.3.a</b>	<b>Diabetes Short-Term Complications Admission Rate</b>
<b>Definition:</b>	Number of inpatient hospital admissions for diabetes short-term complications (ketoacidosis, hyperosmolarity, or coma) per 100,000 client months for clients age 18 and older

<b>Numerator:</b>	All inpatient hospital admissions with ICD-10-CM principal diagnosis code for short-term complications of diabetes (ketoacidosis, hyperosmolarity, or coma)
<b>Denominator:</b>	Total number of months of enrollment for clients age 18 and older during the measurement period
<b>Exclusion Criteria:</b>	Transfers; admissions with missing age, year, or principal diagnosis; obstetric admissions
<b>Continuous Enrollment:</b>	Refer to population definition
<b>Data Source(s):</b>	MMIS and QHP claims data
<b>Measure Steward(s):</b>	AHRQ – Prevention Quality Indicators (PQI)01-AD in Medicaid Adult Core Set
<b>Comparison Group:</b>	Medicaid FFS comparison group
<b>Comparison Method(s):</b>	<ul style="list-style-type: none"> <li>• IPTW</li> <li>• Client-level weighted model</li> </ul>
<b>Statistic to Be Tested:</b>	<ul style="list-style-type: none"> <li>• Difference in group rates</li> </ul>
<b>National Benchmark:</b>	Medicaid Adult Core Set 2018–2020 for measurement years 2017–2019
<b>Deviation(s):</b>	Upper end of age range truncated to 64. Paid claims only

<b>Measure 3.b.3.b</b>	<b>Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults Admission Rate</b>
<b>Definition:</b>	Number of inpatient hospital admissions for chronic obstructive pulmonary disease (COPD) or asthma per 100,000 client months for clients age 40 and older
<b>Numerator:</b>	All inpatient hospital admissions with an ICD-10-CM principal diagnosis code for COPD or asthma
<b>Denominator:</b>	Total number of months of enrollment for clients age 40 and older during the measurement period
<b>Exclusion Criteria:</b>	Transfers; admissions with missing age, year, or principal diagnosis; obstetric admissions; diagnosis codes for cystic fibrosis and anomalies of the respiratory system
<b>Continuous Enrollment:</b>	Refer to population definition



<b>Data Source(s):</b>	MMIS and QHP claims data
<b>Measure Steward(s):</b>	AHRQ – PQI05-AD in Medicaid Adult Core Set
<b>Comparison Group:</b>	Medicaid FFS comparison group
<b>Comparison Method(s):</b>	<ul style="list-style-type: none"> <li>• IPTW</li> <li>• Client-level weighted model</li> </ul>
<b>Statistic to Be Tested:</b>	<ul style="list-style-type: none"> <li>• Difference in group rates</li> </ul>
<b>National Benchmark:</b>	Medicaid Adult Core Set FFY 2018–2020 for measurement years 2017–2019
<b>Deviation(s):</b>	Upper age limit truncated to 64. Paid claims only.

<b>Measure 3.b.3.c</b>	<b>Heart Failure Admission Rate</b>
<b>Definition:</b>	Number of inpatient hospital admissions for heart failure per 100,000 client months for clients age 18 and older
<b>Numerator:</b>	All inpatient hospital admissions with ICD-10-CM principal diagnosis code for heart failure
<b>Denominator:</b>	Total number of months of Medicaid enrollment for clients age 18 and older during the measurement period
<b>Exclusion Criteria:</b>	Transfers; admissions with missing age, year, or principal diagnosis; obstetric admissions; admissions with any listed ICD-10-PCS procedure codes for cardiac procedure
<b>Continuous Enrollment:</b>	Refer to population definition
<b>Data Source(s):</b>	MMIS and QHP claims data
<b>Measure Steward(s):</b>	AHRQ – PQI08-AD in Medicaid Adult Core Set
<b>Comparison Group:</b>	Medicaid FFS comparison group

<b>Comparison Method(s):</b>	<ul style="list-style-type: none"> <li>• IPTW</li> <li>• Client-level weighted model</li> </ul>
<b>Statistic to Be Tested:</b>	<ul style="list-style-type: none"> <li>• Difference in group rates</li> </ul>
<b>National Benchmark:</b>	Medicaid Adult Core Set FFY 2018–2020 for measurement years 2017–2019
<b>Deviations(s):</b>	Upper age limit truncated to 64. Paid claims only.

<b>Measure 3.b.3.d</b>	<b>Asthma in Younger Adults Admission Rate</b>
<b>Definition:</b>	Number of inpatient hospital admissions for asthma per 100,000 client months for clients ages 18 to 39
<b>Numerator:</b>	All inpatient hospital admissions for clients ages 18 to 39 with an ICD-10-CM principal diagnosis code of asthma
<b>Denominator:</b>	Total number of months of Medicaid enrollment for clients ages 18 to 39 during the measurement period
<b>Exclusion Criteria:</b>	Transfers; admissions with missing age, year, or principal diagnosis; obstetric admissions; diagnosis codes for cystic fibrosis and anomalies of the respiratory system
<b>Continuous Enrollment:</b>	Refer to population definition
<b>Data Source(s):</b>	MMIS and QHP claims data
<b>Measure Steward(s):</b>	AHRQ – PQI15-AD in Medicaid Adult Core Set
<b>Comparison Group:</b>	Medicaid FFS comparison group
<b>Comparison Method(s):</b>	<ul style="list-style-type: none"> <li>• IPTW</li> <li>• Client-level weighted model</li> </ul>
<b>Statistic to Be Tested:</b>	<ul style="list-style-type: none"> <li>• Difference in group rates</li> </ul>

<b>National Benchmark:</b>	Medicaid Adult Core Set FFY 2018–2020 for measurement years 2017–2019
<b>Deviations(s):</b>	Paid claims only

*Hypothesis 3.c. Arkansas Works clients will have equal or better quality of care provided (STC 75a, xi)*

<b>Measure 3.c.1</b>	<b>Follow-Up After Hospitalization (FUH) for Mental Illness</b>
<b>Definition:</b>	<p>The percentage of discharges for clients 18 years of age and older who were hospitalized for treatment of selected mental illness diagnoses or intentional self-harm and who had a follow-up visit with a mental health practitioner. Two rates are reported:</p> <ul style="list-style-type: none"> <li>• Percentage of discharges for which the client received follow-up within 30 days of discharge</li> <li>• Percentage of discharges for which the client received follow-up within 7 days of discharge</li> </ul>
<b>Numerator:</b>	A follow-up visit with a mental health practitioner within (30 or 7) days after discharge. Do not include visits that occur on the date of discharge.
<b>Denominator:</b>	An acute inpatient discharge with a principal diagnosis of mental illness or intentional self-harm on or between January 1 and December 1 of the measurement year
<b>Exclusion Criteria:</b>	Clients with hospice care. Discharges followed by readmission or direct transfer to a non-acute inpatient care setting within the 30-day follow-up period, regardless of principal diagnosis for the readmission.
<b>Continuous Enrollment:</b>	Date of discharge through 30 days after discharge. No allowable gaps
<b>Data Source(s):</b>	MMIS and QHP claims data
<b>Measure Steward(s):</b>	NCQA – FUH-AD in Medicaid Adult Core Set
<b>Comparison Group:</b>	Medicaid FFS comparison group
<b>Comparison Method(s):</b>	<ul style="list-style-type: none"> <li>• IPTW</li> <li>• Client-level weighted model</li> </ul>
<b>Statistic to Be Tested:</b>	<ul style="list-style-type: none"> <li>• Difference in group means</li> </ul>

<b>National Benchmark:</b>	Medicaid Adult Core Set FFY 2018–2020 for measurement years 2017–2019
<b>Deviation(s):</b>	Age range upper limit truncated to 64. Paid claims only.

<b>Measure 3.c.2</b>	<b>Adherence to Antipsychotic Medications for Individuals with Schizophrenia (SAA)</b>
<b>Definition:</b>	The percentage of clients ages 19–64 with schizophrenia or schizoaffective disorder who were dispensed and remained on an antipsychotic medication for at least 80% of their treatment period during the measurement year
<b>Numerator:</b>	The number of clients who achieved a proportion of days covered (PDC) of at least 80% for their antipsychotic medications during the measurement year
<b>Denominator:</b>	Clients with at least one acute inpatient encounter with any diagnosis of schizophrenia or schizoaffective disorder, or at least two visits in an outpatient, intensive outpatient, partial hospitalization, ED, or non-acute inpatient setting, on different dates of service, with any diagnosis of schizophrenia or schizoaffective disorder
<b>Exclusion Criteria:</b>	Clients with hospice care. Clients with a diagnosis of dementia, or who did not have at least two antipsychotic medication dispensing events, during the measurement year
<b>Continuous Enrollment:</b>	The measurement year. No more than one gap in enrollment of up to 45 days or 1 month during each year of continuous enrollment. Anchor date: December 31 of the measurement year.
<b>Data Source(s):</b>	MMIS and QHP claims data
<b>Measure Steward(s):</b>	NCQA – SAA-AD in Medicaid Adult Core Set
<b>Comparison Group:</b>	Medicaid FFS comparison group
<b>Comparison Method(s):</b>	<ul style="list-style-type: none"> <li>• IPTW</li> <li>• Client-level weighted model</li> </ul>
<b>Statistic to Be Tested:</b>	<ul style="list-style-type: none"> <li>• Difference in group means</li> </ul>
<b>National Benchmark:</b>	Medicaid Adult Core Set FFY 2018–2019 for measurement years 2017–2018. HEDIS Medicaid 2019 national rate
<b>Deviation(s):</b>	Paid claims only

Measure 3.c.3	Persistence of Beta-Blocker Treatment After a Heart Attack (PBH)
Definition:	The percentage of clients 18 years of age and older during the measurement year who were hospitalized and discharged from July 1 of the year prior to the measurement year to June 30 of the measurement year with a diagnosis of acute myocardial infarction (AMI) and who received persistent beta-blocker treatment for six months after discharge
Numerator:	At least 135 days of treatment with beta-blockers during the 180-day measurement interval. This allows gaps in medication treatment of up to a total of 45 days during the 180-day measurement interval.
Denominator:	Clients with an acute inpatient discharge with any diagnosis of AMI from July 1 of the year prior to the measurement year through June 30 of the measurement year. If a client has more than one episode of AMI that meets the event/ diagnosis criteria, include only the first discharge.
Exclusion Criteria:	Clients with hospice care. Hospitalizations in which the client had a direct transfer to a non-acute inpatient care setting for any diagnosis
Continuous Enrollment:	Discharge date through 179 days after discharge. No more than one gap in enrollment of up to 45 days or 1 month within the 180 days of the event. Anchor date is discharge date
Data Source(s):	MMIS and QHP claims data
Measure Steward(s):	NCQA – HEDIS PBH
Comparison Group:	Medicaid FFS comparison group
Comparison Method(s):	<ul style="list-style-type: none"> <li>• IPTW</li> <li>• Client-level weighted model</li> </ul>
Statistic to Be Tested:	<ul style="list-style-type: none"> <li>• Difference in group means</li> </ul>
National Benchmark:	HEDIS Medicaid 2017–2019 national rates
Deviation(s):	Age range upper limit truncated to 64. Paid claims only

Measure 3.c.4	Annual Monitoring for Patients on Persistent Medications (MPM)
Definition:	<p>The percentage of clients 18 years of age and older who received at least 180 treatment days of ambulatory medication therapy for a select therapeutic agent during the measurement year and at least one therapeutic monitoring event for the therapeutic agent in the measurement year. Each of the two rates reported separately and as a total rate.</p> <ul style="list-style-type: none"> <li>• Annual monitoring for clients on angiotensin converting enzyme (ACE) inhibitors or angiotensin receptor blockers (ARB)</li> <li>• Annual monitoring for clients on diuretics</li> <li>• Total rate</li> </ul>
Numerator:	Clients with at least one serum potassium and a serum creatinine therapeutic monitoring test in the measurement year
Denominator:	Clients on persistent medications (i.e., clients who received at least 180 treatment days of ambulatory medication in the measurement year)
Exclusion Criteria:	Clients with hospice care
Continuous Enrollment:	No more than 1 gap in continuous enrollment of up to 45 days or 1 month during each measurement year. Anchor date: December 31 of the measurement year.
Data Source(s):	MMIS and QHP claims data
Measure Steward(s):	NCQA – MPM-AD in Medicaid Adult Core Set
Comparison Group:	Medicaid FFS comparison group
Comparison Method(s):	<ul style="list-style-type: none"> <li>• IPTW</li> <li>• Client-level weighted model</li> </ul>
Statistic to Be Tested:	<ul style="list-style-type: none"> <li>• Difference in group means</li> </ul>
National Benchmark:	Medicaid Adult Core Set FFY 2018–2019 for measurement years 2017–2018. HEDIS Medicaid 2019 national rate
Deviation(s):	Age range upper limit truncated to 64. Paid claims only.

Measure 3.c.5	Annual HIV/AIDS Viral Load Test
Definition:	Percentage of clients with a diagnosis of HIV with at least one HIV viral load test during the measurement year
Numerator:	The number of clients in the denominator with an HIV viral load test during the measurement year
Denominator:	Clients who had a primary or secondary diagnosis of HIV during the measurement year
Exclusion Criteria:	Clients with hospice care
Continuous Enrollment:	No more than one gap in enrollment of up to 45 days or 1 month during the measurement year. Anchor date: December 31 of the measurement year.
Data Source(s):	MMIS and QHP claims data
Measure Steward(s):	DMS Homegrown
Comparison Group:	Medicaid FFS comparison group
Comparison Method(s):	<ul style="list-style-type: none"> <li>• IPTW</li> <li>• Client-level weighted model</li> </ul>
Statistic to Be Tested:	<ul style="list-style-type: none"> <li>• Difference in group means</li> </ul>
National Benchmark:	None

Measure 3.c.6	C-Section Rate
Definition:	Percentage of clients with a delivery who delivered via C-section
Numerator:	Clients who delivered via C-section
Denominator:	Clients with a single live delivery
Exclusion Criteria:	None
Continuous Enrollment:	None

<b>Data Source(s):</b>	MMIS and QHP claims data
<b>Measure Steward(s):</b>	DMS Homegrown
<b>Comparison Group:</b>	Medicaid FFS comparison and pregnancy groups
<b>Comparison Method(s):</b>	<ul style="list-style-type: none"> <li>• IPTW</li> <li>• Client-level weighted model</li> </ul>
<b>Statistic to Be Tested:</b>	<ul style="list-style-type: none"> <li>• Difference in group means</li> </ul>
<b>National Benchmark:</b>	None

#### 4.5.4 Cost Effective Care Measures

##### **Aim 4. Cost Effectiveness**

*Hypothesis 4.a. Reduce overall premium costs in the Exchange Marketplace (STC 75a, xi)*

Measure 4.a.1	Arkansas Program Characteristics
<b>Definition:</b>	Arkansas-specific health insurance exchange program characteristics: number of plans, actuarial risk, average 2 <sup>nd</sup> lowest premium cost
<b>Numerator:</b>	N/A
<b>Denominator:</b>	N/A
<b>Exclusion Criteria:</b>	N/A
<b>Continuous Enrollment:</b>	N/A
<b>Data Source(s):</b>	Arkansas Insurance Department
<b>Measure Steward(s):</b>	DMS Homegrown
<b>Comparison Group:</b>	N/A
<b>Comparison Method(s):</b>	Annual tables
<b>Statistic to Be Tested:</b>	Descriptive analyses
<b>National Benchmark:</b>	None



Measure 4.a.2	Arkansas Regional Average Program Characteristics
Definition:	Arkansas-specific health insurance exchange program characteristics: number of plans, actuarial risk, average 2 <sup>nd</sup> lowest premium cost by Arkansas region
Numerator:	N/A
Denominator:	N/A
Exclusion Criteria:	N/A
Continuous Enrollment:	N/A
Data Source(s):	Arkansas Insurance Department
Measure Steward(s):	DMS Homegrown
Comparison Group:	N/A
Comparison Method(s):	Annual tables
Statistic to Be Tested:	Descriptive analyses
National Benchmark:	None

Measure 4.a.3	Contiguous States' Program Characteristics
Definition:	Contiguous states' health insurance exchange program characteristics: number of plans, actuary risk, 2 <sup>nd</sup> lowest premium cost by contiguous state
Numerator:	N/A
Denominator:	N/A
Exclusion Criteria:	N/A
Continuous Enrollment:	N/A
Data Source(s):	Arkansas Insurance Department
Measure Steward(s):	DMS Homegrown

<b>Comparison Group:</b>	N/A
<b>Comparison Method(s):</b>	Annual tables
<b>Statistic to Be Tested:</b>	Descriptive analyses
<b>National Benchmark:</b>	None

*Hypothesis 4.b. Costs are lower than or comparable to established budget neutrality guidelines and related costs (STC 75a, xii)*

<b>Measure 4.b.1</b>	<b>Meets Budget Neutrality</b>
<b>Definition:</b>	Arkansas Works coverage costs through QHPs remained below the budget neutrality cap
<b>Numerator:</b>	Total payments per individual with a paid premium
<b>Denominator:</b>	Budget Neutrality Cap
<b>Exclusion Criteria:</b>	N/A
<b>Continuous Enrollment:</b>	N/A
<b>Data Source(s):</b>	DMS Financial Data, Form CMS-64, Program Annual Reports
<b>Measure Steward(s):</b>	CMS
<b>Comparison Group:</b>	N/A
<b>Comparison Method(s):</b>	N/A
<b>Statistic to Be Tested:</b>	N/A
<b>National Benchmark:</b>	None

Measure 4.b.2	Inpatient Utilization (IPU) – General Hospital/Acute Care
Definition:	<p>Discharges per 1,000 client months. This measure summarizes utilization of acute inpatient care and services in the following categories:</p> <ul style="list-style-type: none"> <li>• Maternity</li> <li>• Surgery</li> <li>• Medicine</li> <li>• Total inpatient (the sum of Maternity, Surgery and Medicine)</li> </ul>
Numerator:	Total inpatient discharges identified after exclusions
Denominator:	All client months for the measurement year
Exclusion Criteria:	Clients with hospice care. Discharges with a principal diagnosis of mental health or chemical dependency. Newborn care rendered from birth to discharge home from delivery.
Continuous Enrollment:	None
Data Source(s):	MMIS and QHP claims data
Measure Steward(s):	NCQA – HEDIS IPU
Comparison Group:	Medicaid FFS comparison group
Comparison Method(s):	<ul style="list-style-type: none"> <li>• IPTW</li> <li>• Client-level weighted model</li> </ul>
Statistic to Be Tested:	<ul style="list-style-type: none"> <li>• Difference in group means</li> </ul>
National Benchmark:	None
Deviation(s):	Age range limited to 18–64. Paid claims only.

## 4.6 DATA SOURCES

The Arkansas Division of Medical Services (DMS) and its contractor use multiple sources of data to assess the research hypotheses. The evaluation leverages claims-based administrative data, enrollment data and survey-based scores, as applicable. Administrative data sources include information extracted from DMS' Medicaid Management Information System (MMIS).

Whenever possible, the contractor uses its own Arkansas Medicaid Data Warehouse, DMS approved priority warehouse system for the Medicaid comparison groups. Data analytics are performed without direct engagement from the State, as to avoid biased opinion or skewed results. The data evaluator runs the analytics and provide data as necessary for the analysis.

Data from administrative claims is used and does not alter input data or the output of results.

The administrative QHP claims data to evaluate Arkansas Works clients is transmitted periodically to DMS from the carriers to the Arkansas Decision Support System (DSS). These transmittals are based on the format and schedules of files sent to the Arkansas All-Payer Claims Database (APCD). The Arkansas DSS provides the evaluation contractor with a uniform file quarterly of the QHP claims data. The figure below depicts the full data source flow although the Client Engagement Surveys are excluded from this interim evaluation.

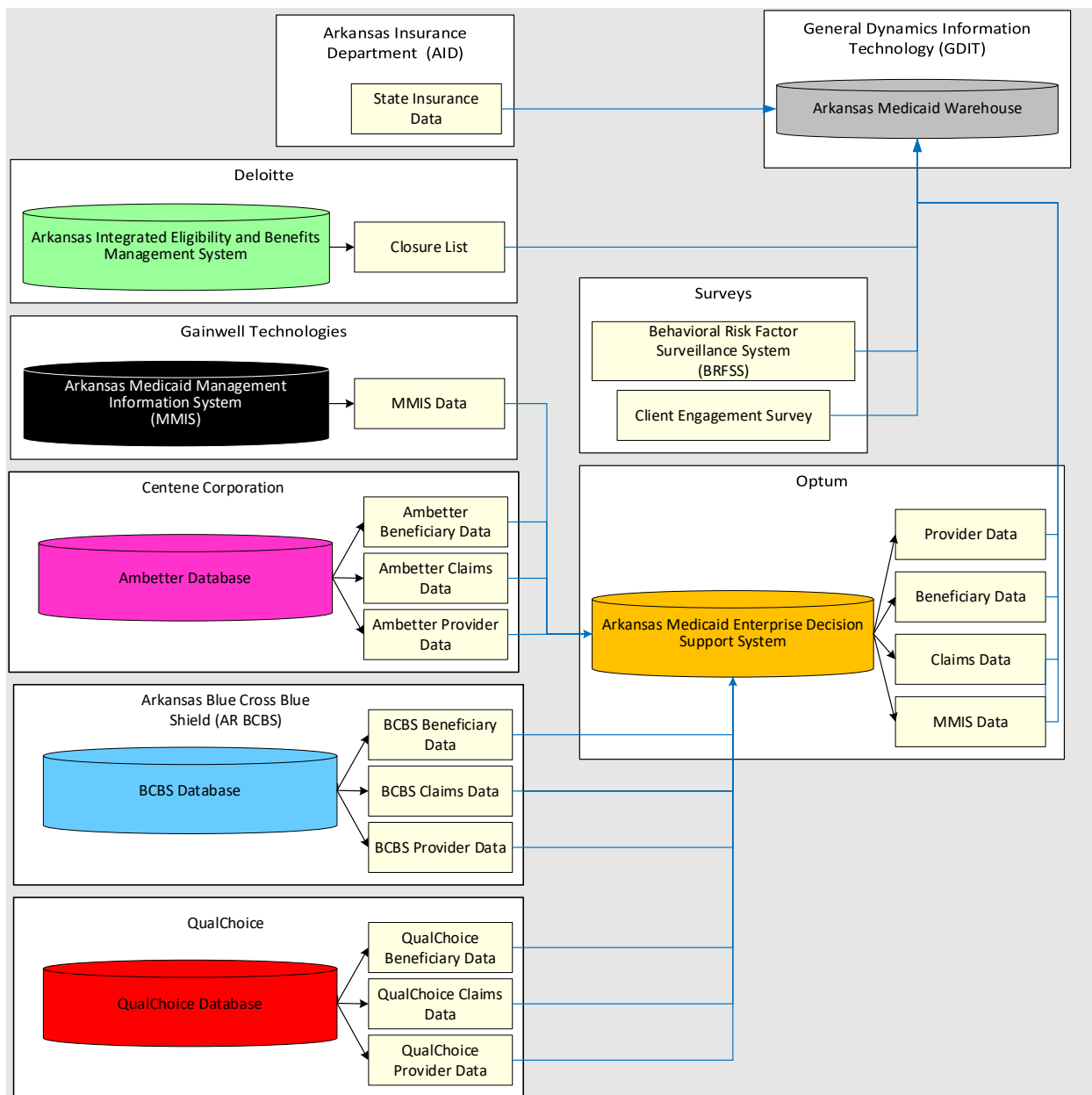


Figure 7: Data Source Flow

#### 4.6.1 Administrative and Claims Data

The MMIS data source is used to collect, manage, and maintain Medicaid client files (i.e., eligibility, enrollment, and demographics) and FFS claims. Use of FFS claims is limited to final, paid status claims. The contractor uses raw, full sets of Medicaid data, which is provided on a weekly basis, consisting of claims, provider, client, and pharmacy data subject areas. To ensure accurate and complete data, the contractor's Arkansas Medicaid Data Warehouse utilizes the pre-snapshot data claims process and requires a minimum three-month lag to allow time for most claims to be processed through the MMIS. The contractor uses FFS claims and follow Healthcare Effectiveness Data and Information Set (HEDIS®) or CMS Core Set national specifications for national metrics. Applicable claim types, such as institutional, professional, and pharmacy claims are used to calculate the various evaluation design metrics while client demographic files are used to assess client age, gender, and other demographic information. Eligibility files are used to verify a client's enrollment in the State's Medicaid programs.

The Arkansas Insurance Department supplied the data to measure network adequacy and to compare Arkansas rates and cost-sharing with contiguous states. The data sources included the Arkansas Specialty Access Template, annually filed and reviewed QHP review tools outputs, and AID analysis. The QHP tools used were the 2017–2019 Plan and Benefit Template, Network Adequacy Template, Data Integrity Tool, Rating Template, Essential Community Provider Template, and the Cost Sharing Tool.

#### 4.6.2 Survey Data – Behavioral Risk Factor Surveillance System

BRFSS is a system of health-related telephone surveys fielded at the state level, with guidance from the CDC. The core questions are fielded annually and include topics on health-related risk behaviors, chronic health conditions, and preventive services. The current BRFSS weighting methodology allows for comparisons since 2011 using survey weights provided with the data. The weights incorporate design weighting to adjust for nonresponse and noncoverage, as well as raking to adjust for demographic differences between the persons sampled within each state.<sup>2</sup>

BRFSS questions on health care access and immunization are used from 2011–2019 public files to evaluate the population of adults likely to have been eligible for Medicaid expansion in Arkansas, compared to states with traditional Medicaid expansions. Demographic data including household size and income is used to identify the analytic sample, i.e., adults under age 65 with household income  $\leq$  138% of federal poverty level.

### 4.7 ANALYTIC METHODS

The statistical analysis ensures that the comparison and target populations in each measure are comparable and adjusts each measure's results for relevant pre- and post-treatment effects.

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<sup>2</sup> Weighting the BRFSS Data. 2020. Center for Disease Control and Prevention. Accessed at [https://www.cdc.gov/brfss/annual\\_data/2019/pdf/weighting-2019-508.pdf](https://www.cdc.gov/brfss/annual_data/2019/pdf/weighting-2019-508.pdf)

Most claims-based measures have a continuous enrollment requirement during the measurement year that is stricter than that used to identify the populations, ensuring that there is enough time for events, diagnoses, or procedures to appear in the claims record. All eligibility and claims-based measures weight clients so that the target and comparison groups are comparable in their baseline sociodemographic characteristics. The weighted client-level results are then adjusted for post-treatment variables including prior experience in the demonstration. We consider risk score a post-treatment effect because the information comes from claims during the measurement year.

The EPSDT population serves as their own control group, pre- and post-enrollment in Arkansas Works, and does not require further adjustment. Measures proposed for interrupted time series analysis use regression adjustment. Measures addressing provider networks, program characteristics, or cost do not require adjustment to compare plans and programs.

The steps of the analytic process are listed below. These apply in general to the claims-based measures. Please refer to Table 5 to verify whether each step will apply to a specific measure.

#### 4.7.1 Determine Clients Eligible for Each Measure

The evaluation follows each metric's specifications to determine which clients are eligible for the denominator. These are a subset of the target and comparison populations that meet additional metric requirements, such as a longer period of continuous enrollment.

#### 4.7.2 Adjust for Selection

Clients in the treatment and comparison groups who are eligible for each metric were assigned inverse probability of treatment weights (IPTW), with the goal of creating two populations that did not differ in the distribution of their baseline characteristics. Candidate baseline covariates included age, gender, race/ethnicity, and baseline income category from MMIS, as well as urban-rural classification from FORHP,<sup>3</sup> based on CBSA spring 2018 designations and linked to client zip codes. Sociodemographic variables mapped to zip code tabulation area (ZCTA) were accessed from the Uniform Data Service (UDS) Mapper,<sup>4</sup> using source data from the American Community Survey (ACS) 2013–2017 and 2014–2018 estimates and BRFSS 2017 and 2012–2014 estimates. ZCTA-level covariates were linked to each client's earliest address in MY17–MY19 and reported as proportions of the population in the ZCTA.

Final propensity score models for all measures included the following covariates: age, gender, rural, minority population in the ZCTA (ACS); and interactions of age with gender, rural, and minority. Other covariates were included if sample size allowed, such as baseline income category from the first eligibility segment since 2015 and its interaction with age,<sup>5</sup> as well as ZCTA-level covariates Under Poverty Level, Less Than High School Education, Age 65 or Older

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<sup>3</sup> <https://www.hrsa.gov/rural-health/about-us/definition/datafiles.html>

<sup>4</sup> <https://udsmapper.org/>

<sup>5</sup> Baseline income not included for small-denominator measures BCS, HIV, PBH, SAA, SPD

(ACS); and Adults with No Usual Source of Care, Adults Who Are Obese, Adults Who Smoke, and Low Birth Weight Rate (BRFSS).<sup>6</sup>

A propensity score is the predicted probability of a client being assigned to the treatment group, given their observed baseline characteristics. Logistic regression was performed to estimate each client's predicted probability, aka their propensity score (PS). The inverse probability of treatment weight (IPTW) is calculated as  $1 / \text{PS}$  for a client in the treatment group and  $1 / (1 - \text{PS})$  for a client in the control group.<sup>7</sup>

Coarsened Exact Matching (CEM) was explored as a nonparametric alternative to propensity-score weighting. CEM creates strata from combinations of binned variable values, in which clients in the treatment or comparison groups are assigned the same weight.<sup>8</sup> Because using the SAS %CEM macro with default values produced substantially smaller analytic samples,<sup>9</sup> propensity score models were determined to be the better option.

#### 4.7.3 Check for Covariate Balance across Groups

Adjusting for selection allows the clients in the treatment and comparison groups to be comparable on the baseline variables. Covariate balance in the two weighted groups was assessed by the standardized difference and variance ratios of each variable in the propensity score model. The standardized difference is the difference in group means, expressed in units of standard deviation so that group size doesn't matter. The variance ratio is a ratio of variances: the variance in the treatment group's covariate values to the variance in the control groups' covariate values. A standardized difference of greater than 0.25 was considered to have residual imbalance, while values of  $< 0.5$  or  $> 2.0$  in the variance ratio were considered indicative of remaining imbalance between groups.<sup>10</sup> Graphical methods for assessing imbalance included comparing side-by-side boxplots and bar charts, among other standard graphical output from the SAS procedures PSMatch and CausalTrt.<sup>11</sup>

To achieve covariate balance, most measure denominators were trimmed of observations beyond extreme percentiles of the propensity score (1<sup>st</sup>–99<sup>th</sup> or 5<sup>th</sup>–95<sup>th</sup> percentiles, depending

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<sup>6</sup> Additional ZCTA-level covariates not included for small-denominator measures BCS, HIV, MPM, PBH, SAA, SPD, and Continuity of Specialist Care

<sup>7</sup> Austin, P.C. and E.A. Stuart. 2015. Moving towards best practice when using inverse probability of treatment weighting (IPTW) using the propensity score to estimate causal treatment effects in observational studies. *Statistics in Medicine* 34(28):3661–79. DOI: 10.1002/sim.6607

<sup>8</sup> King, G. and R. Nielsen. 2019. Why propensity scores should not be used for matching. *Political Analysis* 27(4): 435–454. Accessed at <http://j.mp/2ovYGsW>

<sup>9</sup> Berta, P., M. Bossi and S. Verzillo. 2017. %CEM: A SAS macro to perform coarsened exact matching. *Journal of Statistical Computation and Simulation* 87(2): 227–238. DOI: 10.1080/00949655.2016.1203433

<sup>10</sup> Austin, P.C. 2009. Using the standardized difference to compare the prevalence of a binary variable between two groups in observational research. *Communications in Statistics - Simulation and Computation* 38(6):1228–1234. DOI: 10.1080/03610910902859574

<sup>11</sup> Austin, P.C. and E.A. Stuart. 2015. Moving towards best practice when using inverse probability of treatment weighting (IPTW) using the propensity score to estimate causal treatment effects in observational studies. *Statistics in Medicine* 34(28):3661–3679. DOI: 10.1002/sim.6607



on denominator size), and age interactions were added to the propensity score model. A few measures with small denominators still had residual imbalance in one or more covariates after these adjustments. In these cases, either the outcome model included the covariate for further adjustment, or the population was considered too imbalanced for valid causal inference.

#### 4.7.4 Report Measure Outcomes, Adjusted for Selection

Each metric was calculated to determine the outcome for each eligible client. Most metrics at the client level have a binary outcome or a count, with a denominator of 1. Exceptions to this were the Inpatient Utilization (IPU) and Prevention Quality Indicator (PQI) measures, in which the number of months enrolled was the client-level denominator; the event-driven measures Follow-up After Hospitalization for Mental Illness, Non-emergent/Emergent/Preventable ED Visits, and Continuity of PCP/Specialist Care, in which the client's event total was their denominator; and Average Length of Gaps in Coverage and Continuous Enrollment in a Health Plan, in which the client's number of gaps and number of health plan segments were the respective denominators. For all measures, the client-level outcome was the numerator divided by the denominator.

The IPTW from each measure's propensity score model were applied to weighted regressions on the client-level measure outcomes. The weighted outcomes allow calculation of the average treatment effect (ATE) as the difference between group means.<sup>12</sup> That is, the average effect of being in Arkansas Works, compared with traditional Medicaid. For measures with a client-level outcome of 0 or 1, the weighted group mean is equal to the effective percentage of the group meeting the measure.<sup>13</sup> Results from models that adjusted for selection will be referred to as IPWS, in which inverse probability weighting with ratio and scale adjustments was performed.

#### 4.7.5 Adjust Measures for Post-Treatment Effects

Because the waiver evaluation period begins in the latter stage of Arkansas's 1115 waiver implementation, measure results were additionally adjusted for each client's time in the demonstration since 2014. This was considered a post-treatment variable, since most clients in Arkansas Works were not eligible for Medicaid prior to 2014.

Adjustment for clinical severity was also done because it was expected to affect measure outcomes. Because QHP claims are only available after assignment to the treatment group, diagnosis information was considered post-treatment. Client-level risk scores were calculated from measurement-year claims diagnosis fields using the Department of Health and Human Services Hierarchical Condition Category (HHS-HCC) risk adjustment models.

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<sup>12</sup> Austin, P.C. 2011. An introduction to propensity score methods for reducing the effects of confounding in observational studies. *Multivariate Behavioral Research* 46(3):399–424. DOI: 10.1080/00273171.2011.568786

<sup>13</sup> Austin, P.C. 2010. The performance of different propensity-score methods for estimating differences in proportions (risk differences or absolute risk reductions) in observational studies. *Statistics in Medicine* 29(20):2137–2148. DOI:10.1002/sim.3854

Weighted regression was performed on the client-level measure outcomes using post-treatment covariates. The outcome variable depended on the measure being analyzed. For example, whether a screening test was performed was modeled using logistic regression, and number of visits was modeled with Poisson or negative binomial regression.

Post-treatment covariates:

- Total time enrolled in Arkansas Works or HCIP (up to 3 years prior to measurement year)
- Enrollment region during the measurement year
- Risk score calculated from HHS-HCC risk adjustment models

The outcome models also included baseline covariates that are confounders; that is, variables that were expected to affect both treatment assignment and the measure outcome. These were age, gender, the age-by-gender interaction, race/ethnicity, minority, and rural. All measures except those with small sample size (HIV, PBH, SAA, SPD) also included baseline income category and its interaction with age.

Sensitivity analysis was conducted to determine whether the results changed when different sets of covariates were included in the outcome model. When possible, ‘doubly robust’ estimators were calculated; these estimates are robust to misspecification of either the treatment model or the outcome model. Doubly robust results from models that adjusted for selection, confounders, and post-treatment covariates will be referred to as IPWREG (inverse probability weighted with regression adjustment).

#### 4.7.6 Adjustments for Multi-Year Analysis

As noted in the evaluation design, a longer timeframe is needed to evaluate the entirety of the Arkansas Works demonstration which is scheduled to run for five years after the original three-year implementation of Arkansas’s 1115 waiver demonstration. This is otherwise known as the Health Care Independence Program (the “Private Option”). Therefore, if the data permits, longitudinal analysis may be explored using the full timeframe of the Arkansas Works demonstration.

#### 4.7.7 Interrupted Time Series Analyses

To assess the effects of Arkansas Works’ retroactive eligibility waiver on continuity, data from continuity of coverage measures 1.a.1 and 1.a.2 were assessed for the possibility of performing a single interrupted time series (ITS) from 2014 through 2019.<sup>14</sup> To assess the Arkansas Works’ policy of required premium contributions for clients with income above 100% FPL, data from continuity measures 1.a.1 and 1.a.2 and claims-based measures of primary care and emergency department utilization were assessed through 2019. For single ITS, a dynamic cohort was constructed in which clients could enter in any year based on assignment to the target group.

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<sup>14</sup> Baicker, K. and T. Svoronos. 2019. Testing the Validity of the Single Interrupted Time Series Design. National Bureau of Economic Research working paper 26080. Accessed at <https://www.nber.org/papers/w26080>

The multiple ITS cohort additionally required a client to have not changed their income category throughout the study period.

In all measures assessed, the ITS assumption of a stable pre-interruption trend was not upheld. The first year of Medicaid expansion was an outlier because many clients did not begin enrollment until mid-year, and most Arkansas Works clients did not have enrollment records prior to 2014.<sup>15</sup> This means that 2014 was not comparable in the percent of clients with gaps or the average length of gaps; counts of outpatient visits and ED visits were also affected. Given the outlying results in the first year of a limited pre-Arkansas Works period, it was determined that ITS analyses would not be appropriate.

Instead, pre-post analyses were conducted using 2015–2016 as the pre-policy period and 2017–2019 as the post-policy period. The single and multiple ITS dynamic cohorts were used in GEE-type models accounting for within-client correlation, age, gender, and race/ethnicity. Linear probability models were used for the percent of clients with gaps, average gap length was modeled as a normally distributed variable, and counts of visits were modeled as Poisson-distributed variables.

#### 4.7.8 Differences-in-Differences Analyses

Core questions from the BRFSS on Health Care Access (any coverage, personal doctor, routine checkup, medical cost) and Immunization (flu shot/spray) were analyzed for Arkansas and comparison states with traditional Medicaid expansions (Kentucky, Ohio, Pennsylvania, and West Virginia) pre- and post- Medicaid expansion.<sup>16</sup> Data was extracted for all nonelderly adults (18–64 years of age) surveyed in the 2011–2019 BRFSS. Analyses were restricted to respondents residing in households earning <138% FPL; respondent household size and income were used to calculate an imputed percentage of the FPL. The final sample included approximately 65K adult respondents (varying by survey question) in low-income households.

Annual means were computed for each measure for Arkansas and comparison states and were plotted across the baseline years to verify that pre-expansion trends in the measures were similar for Arkansas and control states. Means were calculated for three time periods: Baseline, 2011–2013,<sup>17</sup> Early expansion, 2014–2016,<sup>18</sup> Late expansion, 2017–2019.<sup>19</sup> We then estimated differences-in-differences (DiD) models to assess changes in outcomes attributable to Medicaid expansion. Differences-in-differences estimators are the interactions of time period with location (Arkansas vs. comparison states).

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<sup>15</sup> <https://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Waivers/1115/downloads/ar/Health-Care-Independence-Program-Private-Option/ar-works-private-option-summative-eval-20180630.pdf>

<sup>16</sup> As shown in <https://chronicdata.cdc.gov/Behavioral-Risk-Factors/Behavioral-Risk-Factor-Surveillance-System-BRFSS-H/iuq5-y9ct/data>

<sup>17</sup> Baseline period is 2011–2014 for PA.

<sup>18</sup> Early expansion period is 2015–2017 for PA.

<sup>19</sup> Late expansion period is 2018 onward for PA.

DiD models included demographic covariates for race/ethnicity, age, education, employment, household size, veteran status, sex, income, renting status, and mode of survey administration (cellphone versus landline). Survey responses were dichotomized yes/no. All models were estimated as linear probability models using BRFSS sampling weights.

#### 4.7.9 Analyses of Access to EPSDT Benefits

The Medicaid Core Set measures Adolescent Well-Care Visits and Preventive Dental Visits, in addition to a modification of the latter to assess preventive vision screenings, were used to assess client access to EPSDT benefits while enrolled in Arkansas Works. Clients eligible for the EPSDT measure denominators were ages 19–20 and enrolled in a QHP during the measurement year, in addition to having previous enrollment in fee-for-service Medicaid and eligibility for EPSDT benefits in the previous year or two years prior to the measurement year. Each year was subject to a continuous enrollment requirement of at most 1 gap in coverage of 45 days or less. Logistic regression models on client-level measure outcomes were performed with period as a 3-level predictor variable, to assess age and QHP effects while accounting for within-client correlations.

#### 4.7.10 Geospatial Analyses

The following steps were taken to prepare the QHP provider data for each plan year 2017–2019:

1. Aggregate QHP data: The provider data for all QHP issuers were aggregated to create a master table of all in-network QHP providers. All original data were kept in this process and a new column to identify the issuer was appended to the original data.
2. Standardize “address” fields: Primary street addresses were standardized by using SQL to apply abbreviations uniformly across all records. For example, records with the substring ‘Street’ were adjusted to only read ‘St.’ The primary address field was cleaned if needed. For example, if a primary address contained a floor number or suite number, this information was migrated into the secondary address column.
3. Delete duplicate records: Duplicate records, defined as records with the same NPI, Primary Address, Specialty Type, City, and ZIP, were deleted from the data set.
4. Remove providers greater than 70 miles away from the AR border: Using GIS software, QHP providers located further than 70 miles outside the AR border were removed from the dataset.

The FFS provider data and the client data was received in clean, non-duplicate form, no cleaning or manipulation was required.

To conduct the geospatial analysis, the following steps were taken separately for the FFS and QHP data, by provider type, for each plan year 2017–2019:

1. Map providers: Using GIS-software, providers were mapped based on primary address.

2. Establish service areas: A service area was then defined for each provider based on the geographic access standard for the provider type. For example, a PCPs service area was defined as a circle around the PCP location with a 30-mile radius.
3. Determine network adequacy: Calculate the proportion of the state of Arkansas that lacks adequate coverage. Numerator is square miles without coverage, denominator is total square miles of Arkansas.
4. Map clients: Using GIS-software, clients were mapped based on longitude and latitude associated with their primary address.
5. Determine network access: Calculate the proportion of clients lacking access for each provider type. After locating all providers and clients the GIS-software identified all clients not able to access a provider within the distance standard for the provider type. These identified clients were then subtracted from the total clients to create the numerator of the measure. Denominator is total clients.

## 4.8 SUMMARY OF ANALYSIS METHODS

Table 5: Summary of planned analysis methods by hypothesis, driver, and metric.

Goal. Hypothesis	Driver	Indicator	Metric Name	Comparison Group	Analytic Method to Construct Comparable Groups	Comparison Method	Statistical Test	Comparison Method Adjusting for Post-treatment Effects	Statistical Test		
1.a.	1	AR Medicaid Eval 1.a.1.	Average Length of Gaps in Coverage, in months*	Medicaid FFS comparison group	Inverse probability of treatment weights (IPTW)	Client-level model	Difference in group means	Client-level model with prior experience	Average treatment effect (ATE)		
	2	AR Medicaid Eval 1.a.2.	Percent of Clients with < 2 Gaps in Coverage <sup>20</sup>				Difference in group percentages				
1.b.	1	AR Medicaid Eval 1.b.1.	Continuous Enrollment in a Health Plan				Difference in group means				
	2	AR Medicaid Eval 1.b.2.	Continuity of PCP Care				Difference in group percentages				
	3	AR Medicaid Eval 1.b.3.	Continuity of Specialist Care								

<sup>20</sup> 1.a.1 and 1.a.2 are used in pre-post analysis to assess effects of the premium contribution requirement and waiver of retroactive eligibility. The comparison groups are Medicaid expansion adults not affected by the policy because of implementation time or income requirements.

Goal. Hypothesis	Driver	Indicator	Metric Name	Comparison Group	Analytic Method to Construct Comparable Groups	Comparison Method	Statistical Test	Comparison Method Adjusting for Post-treatment Effects	Statistical Test
2.a.	1	AR Medicaid Eval 2.a.1.	PCP Network Adequacy	Medicaid PCP provider network	N/A	Geospatial analysis	N/A	N/A	N/A
	2	AR Medicaid Eval 2.a.2.	PCP Network Accessibility						
	3	AR Medicaid Eval 2.a.3.	Specialist Network Adequacy	Medicaid specialist provider network					
	4	AR Medicaid Eval 2.a.4.	Specialist Network Accessibility						
	5	AR Medicaid Eval 2.a.5.	Essential Community Providers Network Adequacy	Medicaid ECP provider network					

Goal. Hypothesis	Driver	Indicator	Metric Name	Comparison Group	Analytic Method to Construct Comparable Groups	Comparison Method	Statistical Test	Comparison Method Adjusting for Post-treatment Effects	Statistical Test
2.a.	8.a.	BRFSS HLTHPLN1	Have Health Care Coverage	BRFSS comparison group	Subset of states, age, income	Differences-in- differences	DiD estimator	N/A	N/A
	8.b.	BRFSS PERSDOC2	Have a Personal Doctor						
	8.c.	BRFSS CHECKUP1	Last Routine Checkup						
	8.d.	BRFSS MEDCOST	Avoided Care Due to Cost						
	8.e.	BRFSS FLUSHOT6, FLUSHOT5	Flu Vaccine						
2.b.	1	NCQA BCS- AD	Breast Cancer Screening	Medicaid FFS comparison group	IPTW	Client-level model	Difference in group means	Client-level model with prior experience	ATE
	2	NCQA CCS- AD	Cervical Cancer Screening						
	3	NCQA HEDIS SPD	Statin Therapy for Patients with Diabetes						
	4	NCQA HA1C- AD	Comprehensive Diabetes Care: Hemoglobin A1c Testing						
	5	NCQA HEDIS AAP	Adults' Access to Preventive/Ambulatory Health Services**						

<sup>21</sup> AAP and ED visit utilization are used in pre-post analyses to assess effects of the premium contribution requirement. The comparison group is Medicaid expansion adults not affected by the policy because of implementation time or income requirements.



Goal. Hypothesis	Driver	Indicator	Metric Name	Comparison Group	Analytic Method to Construct Comparable Groups	Comparison Method	Statistical Test	Comparison Method Adjusting for Post-treatment Effects	Statistical Test
2.c.	1	AR Medicaid Eval 2.c.1.	Non-emergent ED Visits <sup>21</sup>	Medicaid FFS comparison group	IPTW	Client-level model	Difference in group means	Client-level model with prior experience	ATE
	2	AR Medicaid Eval 2.c.2.	Emergent ED Visits <sup>21</sup>						
2.d.	1	AR Medicaid Eval 2.d.1.	Adolescent Well-Care Visits	EPSDT cohort, 1–2 years prior to Arkansas Works enrollment	N/A	Repeated- measures regression	Least- squares mean differences	None	N/A
	2	AR Medicaid Eval 2.d.2.	EPSDT Screening – Preventive Dental Visits						
	3	AR Medicaid Eval 2.d.3.	EPSDT Screening – Preventive Vision						

Goal. Hypothesis	Driver	Indicator	Metric Name	Comparison Group	Analytic Method to Construct Comparable Groups	Comparison Method	Statistical Test	Comparison Method Adjusting for Post-treatment Effects	Statistical Test
3.b.	1	AR Medicaid Eval 3.b.1.	Preventable ED Visits	Medicaid FFS comparison group	IPTW	Client-level model	Difference in group means	Client-level model with prior experience	ATE
	2	NCQA PCR- AD	Plan All-Cause Readmissions						
3.b.	3.a.	AHRQ PQI01-AD	Diabetes Short-Term Complications Admission Rate	Medicaid FFS comparison group	IPTW	Client-level model	Difference in group rates	Client-level model with prior experience	ATE
	3.b.	AHRQ PQI05-AD	Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults Admission Rate						
	3.c.	AHRQ PQI08-AD	Heart Failure Admission Rate						
	3.d.	AHRQ PQI15-AD	Asthma in Younger Adults Admission Rate						

Goal. Hypothesis	Driver	Indicator	Metric Name	Comparison Group	Analytic Method to Construct Comparable Groups	Comparison Method	Statistical Test	Comparison Method Adjusting for Post-treatment Effects	Statistical Test
3.c.	1	NCQA FUH-AD	Follow-Up After Hospitalization for Mental Illness	Medicaid FFS comparison group	IPTW	Client-level model	Difference in group means	Client-level model with prior experience	ATE
	2	NCQA SAA-AD	Adherence to Antipsychotic Medications for Individuals with Schizophrenia						
	3	NCQA HEDIS PBH	Persistence of Beta-Blocker Treatment After a Heart Attack						
	4	NCQA MPM-AD	Annual Monitoring for Patients on Persistent Medications						
	5	AR Medicaid Eval 3.c.5.	Annual HIV/AIDS Viral Load Test						
	6	AR Medicaid Eval 3.c.6	C-Section Rate	Medicaid FFS comparison and pregnancy groups					
4.a.	1	AR Medicaid Eval 4.a.1.	Arkansas Program Characteristics	N/A	N/A	Annual tables	N/A	N/A	N/A
	2	AR Medicaid Eval 4.a.2.	Arkansas Regional Average Program Characteristics						
	3	AR Medicaid Eval 4.a.3.	Contiguous States Program Characteristics						

Goal. Hypothesis	Driver	Indicator	Metric Name	Comparison Group	Analytic Method to Construct Comparable Groups	Comparison Method	Statistical Test	Comparison Method Adjusting for Post-treatment Effects	Statistical Test
4.b.	1	AR Medicaid Eval 4.b.1.	Meets Budget Neutrality	N/A	N/A	Budget neutrality cap	N/A	N/A	N/A
	2	NCQA HEDIS IPU	Inpatient Utilization – General Hospital/Acute Care	Medicaid FFS comparison group	IPTW	Client-level model	Difference in group rates	Client-level models with prior experience	ATE

## 5 METHODOLOGICAL LIMITATIONS

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The main limitation of this evaluation is that before Arkansas' 1115 waiver period began in 2014, there were very few ways in which adults were eligible for traditional Medicaid. Therefore, a large majority of the population enrolled in Arkansas Works or its predecessor, the Healthcare Independence Program, does not have a truly comparable population in traditional Medicaid. Our constructed target and comparison groups are adjusted for differences in sociodemographic factors to the extent possible.

Information used for client weights comes from the eligibility determination process. Causal analysis requires that the baseline variables are known before assignment to the treatment or comparison group, and that they are not affected by the assignment. Therefore, we assume the baseline covariates for each client did not change during the calendar year.

One exception is when the community engagement requirement was in effect, June 2018 through March 2019. Income level and coverage for Arkansas Works clients may have changed because of the community engagement requirement. However, this evaluation does not directly address impacts of the community engagement requirements.

Because only paid claims are available from QHPs, the claims-based measures are restricted to paid claims only for both target and comparison groups. Services billed on claims that were suspended or denied are not included.

Prior to implementation of the managed-care program, PASSE, on March 1, 2019, clients were assigned to PASSE based on behavioral health assessments. Some of the assignments were made for clients in the Medicaid expansion population, who never enrolled in the PASSE, and other assignments were made for clients in traditional Medicaid but were never implemented. Therefore, for the purposes of the Arkansas Works evaluation clients with a PASSE eligibility segment on or after the implementation date of March 1, 2019, are excluded. However, those with a PASSE segment before implementation are included.

## 6 RESULTS

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The tables in this section show group sample sizes and rates, differences in the group rates, and p values for statistical significance of the group differences, in each measurement year. Graphs show labeled group rates with 95% confidence interval error bars. If differences between group rates were statistically significant in a given measurement year (p value  $\leq 0.05$ ), the difference is shown at the bottom of the graph as the ATE (average treatment effect).

For measures in which propensity-score weighting was specified, results are presented from the final models performed, IPWS or IPWREG. Both types of models incorporated weights to adjust for baseline age, gender, minority, rural, income,<sup>20</sup> and other ZCTA-level sociodemographic variables,<sup>21</sup> while IPWREG also used regression adjustment for race/ethnicity, measurement-year risk score and enrollment region, prior experience in Arkansas Works, and all confounders. Regression-adjusted measure results are shown for the few measures in which covariate balance was not achieved using propensity score weights.

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<sup>20</sup> Baseline income not included for small-denominator measures BCS, HIV, PBH, SAA, SPD

<sup>21</sup> Not included for small-denominator measures BCS, HIV, MPM, PBH, SAA, SPD, and Continuity of Specialist Care

## 6.1 CONTINUITY OF CARE RESULTS

### 6.1.a.1 Average Length of Gaps in Coverage

The target group had significantly shorter gaps in coverage in all measurement years, with the difference being 23 days in MY17 (-25.84, -19.85 CI), 6.5 days in MY18 (-9.73, -3.34 CI), and 8.7 days in MY19 (-11.10, -6.28 CI). Although average gap length was similar in all three measurement years for the target group, the comparison group's average gap length was over 2 weeks longer in MY17 than in MY18 or MY19. Gaps were defined as a loss of coverage of 30 days or more. Gaps at the beginning of the measurement year were counted if the client had had the same type of coverage in the year prior to the measurement year.

Table 6: Average Length in Gaps in Coverage Results

Measure	1.a.1	MY17	MY18	MY19
IPWREG	Target Sample	26,588	44,278	28,188
	Comparison Sample	5,450	5,706	5,598
	Target Rate	90.65	90.30	87.33
	Comparison Rate	113.68	96.80	96.05
	Rate Difference	-23.03	-6.49	-8.72
	P Value	<.0001	<.0001	<.0001
Propensity scores trimmed at the:			5th–95th percentiles	

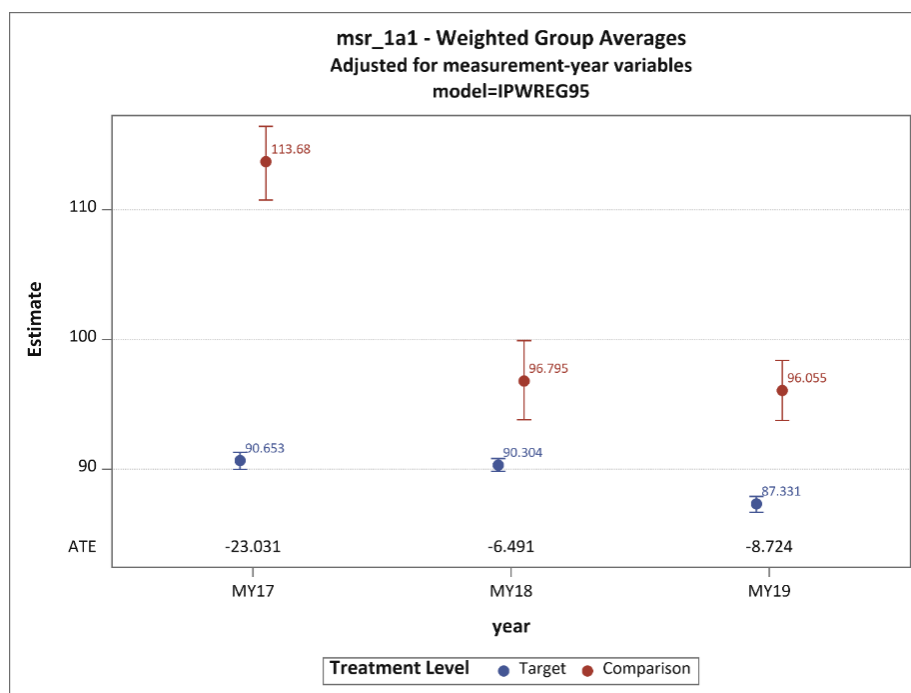


Figure 8: Average Length in Gaps in Coverage Weighted Group Averages

**Principal finding:** The target group had significantly shorter coverage gaps in all MY.

### 6.1.a.2 Percent of Clients with Less than Two Gaps in Coverage

The vast majority of clients in either the target or comparison group had fewer than 2 gaps in coverage. Although the rate was above 99% in all measurement years, in MY18 and MY19 the target group had a significantly lower percentage of clients with fewer than 2 gaps in coverage. The difference attributable to the Arkansas Works demonstration was 0.14 percentage points in MY18 and 0.12 percentage points in MY19.

Table 7: Percent of Clients with Less than Two Gaps in Coverage Results

Measure	1.a.2	MY17	MY18	MY19
IPWREG	Target Sample	187,859	175,895	181,933
	Comparison Sample	36,074	38,167	39,011
	Target Rate	0.9987	0.9973	0.9973
	Comparison Rate	0.9993	0.9987	0.9986
	Rate Difference	-0.0006	-0.0014	-0.0012
	P Value	0.0514	<.0001	<.0001
Propensity scores trimmed at the:			5th–95th percentiles	

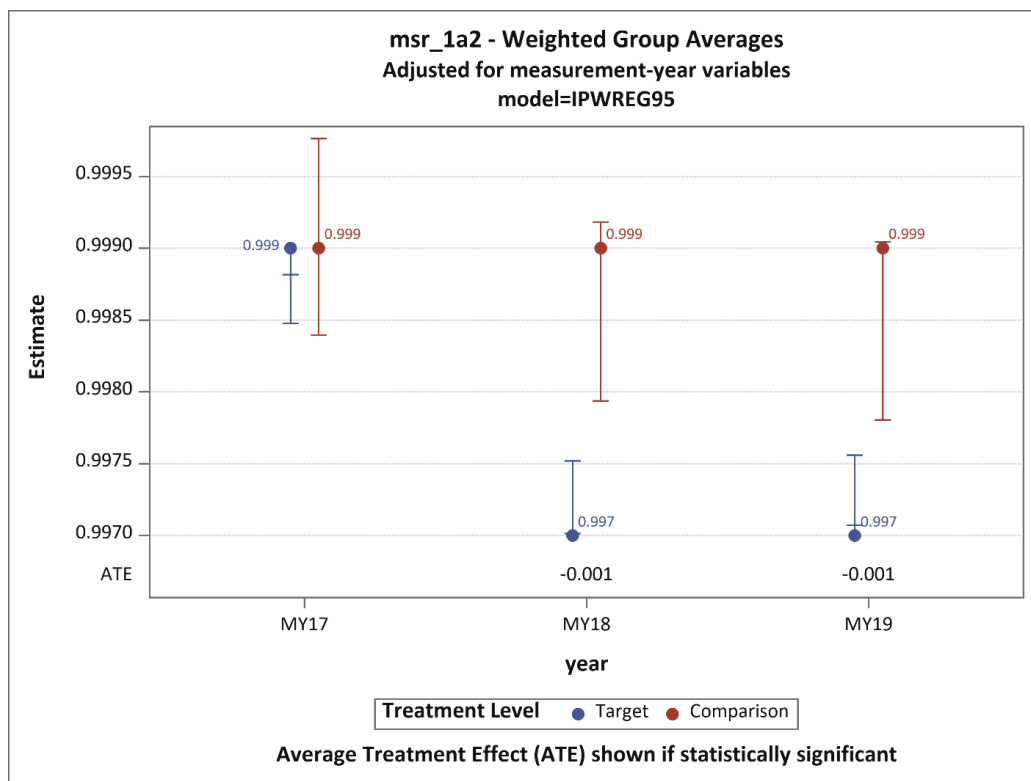


Figure 9: Percent of Clients with Less than Two Gaps in Coverage Weighted Group Averages

**Principal finding:** The target group had a significantly lower percentage of clients with fewer than 2 gaps in coverage in MY18 and MY19.



### 6.1.b.1 Continuous Enrollment in a Health Plan

In all measurement years, the target group had significantly shorter continuous enrollment periods at the health plan level. The difference between the target and comparison groups was 41 days in MY17, 58 days in MY18, and 46 days in MY19. These differences can partly be attributed to new clients in Arkansas Works being placed in fee-for-service, transitional 'IABP' Medicaid before choosing a QHP.

To fairly compare target client enrollment length in QHPs to comparison clients in traditional Medicaid, the IABP segments (most of which were 1 to 3 months in length) were excluded from calculations of average enrollment length. Thus, the maximum enrollment time in a QHP was necessarily shorter than that in the comparison group.

Table 8: Continuous Enrollment in a Health Plan Results

Measure	1.b.1	MY17	MY18	MY19
IPWREG	Target Sample	187,859	175,895	181,933
	Comparison Sample	36,074	38,167	39,011
	Target Rate	298.49	285.01	296.03
	Comparison Rate	340.02	343.31	341.58
	Rate Difference	-41.53	-58.30	-45.55
	P Value	<.0001	<.0001	<.0001
Propensity scores trimmed at the:			5th–95th percentiles	

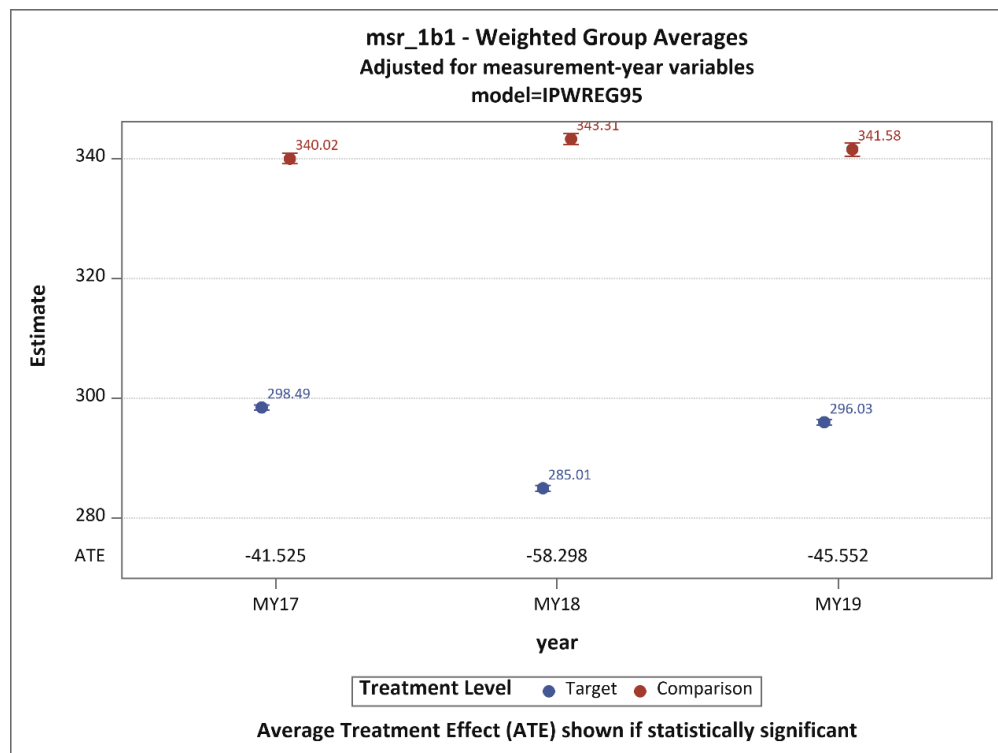


Figure 10: Continuous Enrollment in a Health Plan Weighted Group Averages

**Principal finding:** The target group had significantly shorter continuous enrollment periods at the health plan level in all MY.

### 6.1.b.2 Continuity of PCP Care

Over 65% of primary care visits in the target group were with the same provider, compared to about 70% in the comparison group. The target group was consistently lower in clients' proportion of primary-care visits with the same primary care practitioner. This difference was 3.9 percentage points in MY17, compared to 3.8 and 4.3 percentage points in MY18 and MY19, respectively.

Outcomes for the Continuity of Care measures were calculated using the Usual Provider of Care formula.<sup>22</sup> PCPs were defined for this measure as individuals with a provider specialty of general practice, family practice, internal medicine, OB-GYN, pediatrics, or geriatrics, or nurse practitioners. IPWS model results adjusted for group selection are reported, due to convergence issues with IPWREG models additionally adjusting for confounders and measurement-year effects.

Table 9: Continuity of PCP Care Results

Measure	1.b.2	MY17	MY18	MY19
IPWS	Target Sample	57,798	59,772	61,992
	Comparison Sample	10,215	12,388	12,551
	Target Rate	0.6678	0.6668	0.6602
	Comparison Rate	0.7069	0.7051	0.7030
	Rate Difference	-0.0391	-0.0384	-0.0429
	P Value	<.0001	<.0001	<.0001
Propensity scores trimmed at the:			5th–95th percentiles	

<sup>22</sup> Pollack et al. 2016. Measuring care continuity: A comparison of claims-based methods. *Medical Care* 54(5): e30–e34. DOI: 10.1097/MLR.0000000000000018

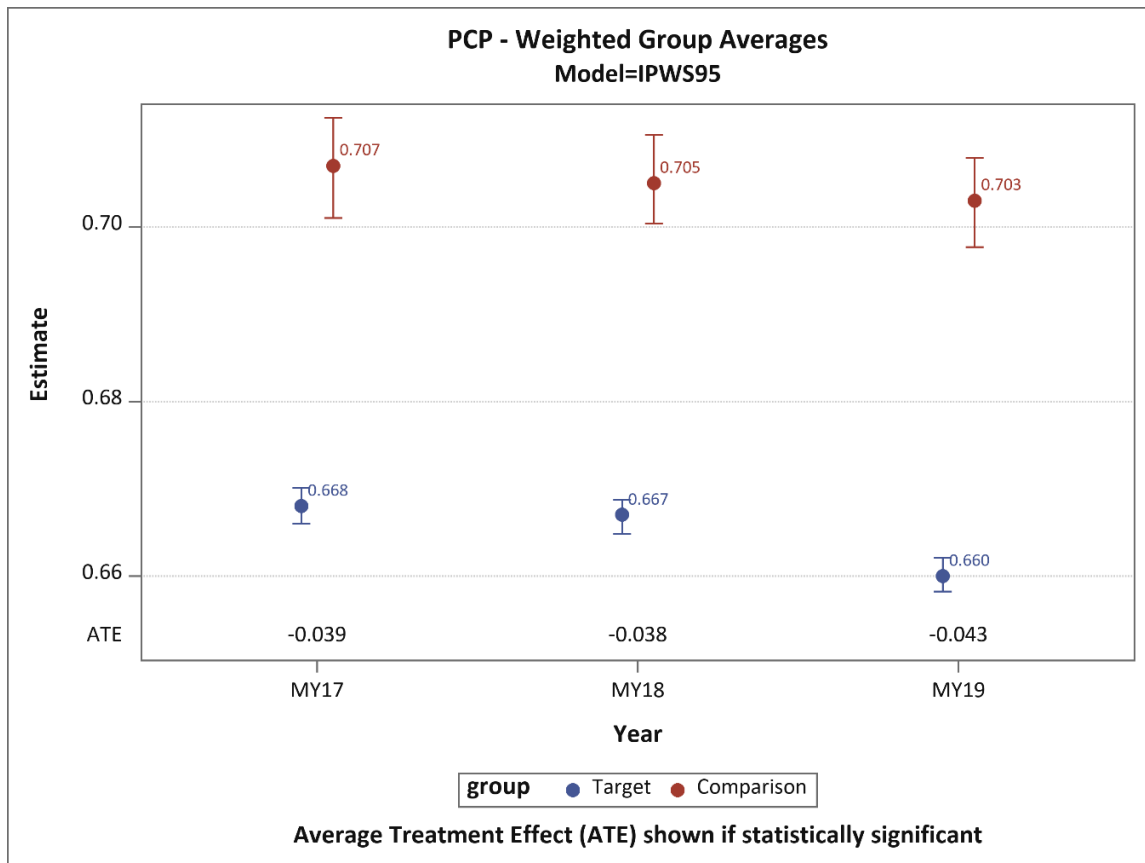


Figure 11: Continuity of PCP Care Weighted Group Averages

The differences between groups could be partly due to the Arkansas Medicaid policy of requiring clients to have a primary care provider, through which primary care and referrals to specialists are made. QHPs allowed nurse practitioners and physician assistants to serve as PCPs, and visits to urgent care clinics were covered. This may have resulted in QHP clients receiving primary care services from more providers.

*Principal finding:* The target group was consistently lower in clients' proportion of visits with the same primary care practitioner.

### 6.1.b.3 Continuity of Specialist Care

Continuity of specialist care was assessed by calculating the largest proportion of a client's visits with the same specialist, within the measure-determined specialist type (aka Usual Provider of Care). Clients eligible for the denominator had a minimum of 2 visits with specialist(s) of the same type.

All specialist continuity of care measures had residual imbalance in age across the target and comparison groups after inverse probability weighting, defined as a standardized mean difference of 0.25 or higher. But because age was also a covariate in the doubly robust outcome model, and results from IPWREG were largely consistent with the IPWS models, IPWREG results (adjusting for group selection, confounders, and measurement-year variables) are shown below.

On average, clients with more than 1 visit to a cardiologist generally saw the same cardiologist for over 90% of visits, although in MY17 the comparison group rate of 87% was significantly lower than the target group rate of 93% in the same year ( $p = 0.0174$ ).

Table 10: Continuity of Specialist Care- Cardiologist Results

Measure	1.b.3.a	MY17	MY18	MY19
IPWREG	Target Sample	2,903	3,045	3,619
	Comparison Sample	300	372	401
	Target Rate	0.9260	0.9258	0.9157
	Comparison Rate	0.8699	0.9350	0.9252
	Rate Difference	0.0561	-0.0091	-0.0095
	P Value	0.0174	0.5979	0.6628
Propensity scores trimmed at the:			1st–99th percentiles	

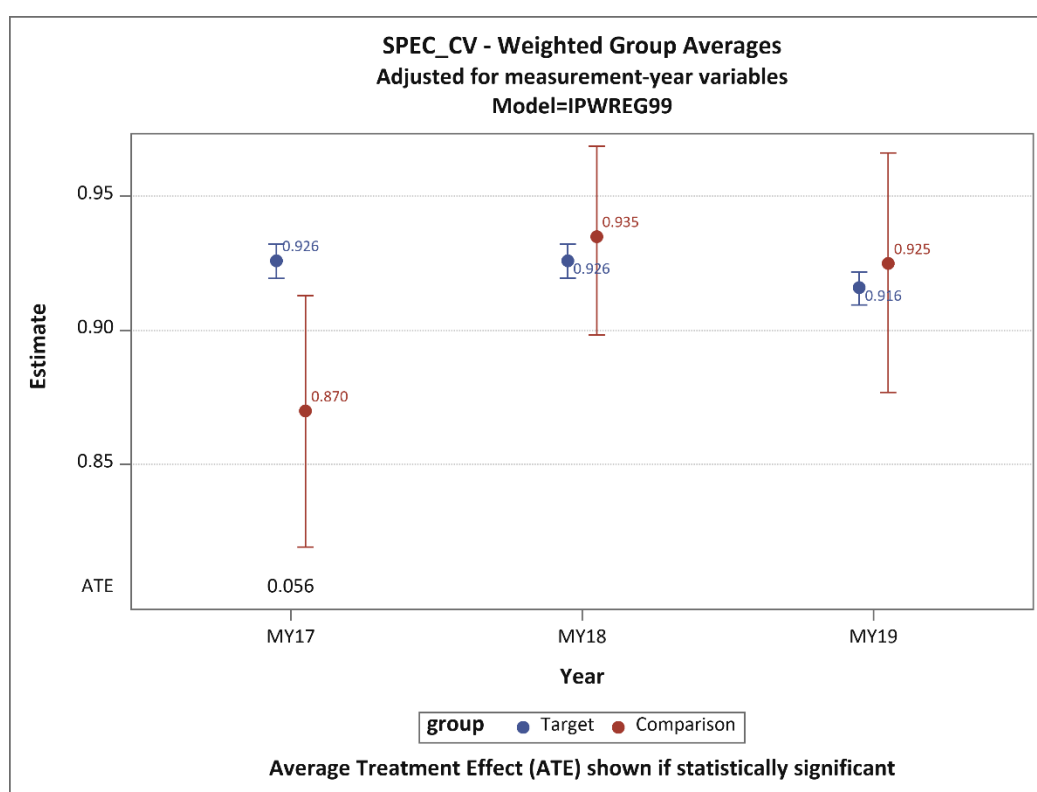


Figure 12: Continuity of Specialist Care- Cardiologist Weighted Group Averages

**Principal finding:** The proportion of visits with the same specialist was higher in MY17 for clients in the target group seeing cardiologists.

Among clients who saw an endocrinologist for at least 2 visits, the proportion of visits with the same endocrinologist was over 90% and did not differ significantly between the target and comparison groups. A trend towards a higher target group rate in MY18 was not significant, partly because the comparison group's small sample size led to greater uncertainty in its estimated rate, reflected below in wider confidence intervals. In all measurement years, the average proportion of visits to the same endocrinologist ranged from 93% to 99%.

Table 11: Continuity of Specialist Care- Endocrinologist Results

Measure	1.b.3.b	MY17	MY18	MY19
IPWREG	Target Sample	1,086	1,041	1,038
	Comparison Sample	149	182	158
	Target Rate	0.9797	0.9743	0.9747
	Comparison Rate	0.9701	0.9331	0.9878
	Rate Difference	0.0096	0.0411	-0.0132
	P Value	0.4668	0.0768	0.3593
Propensity scores trimmed at the:			1st–99th percentiles	

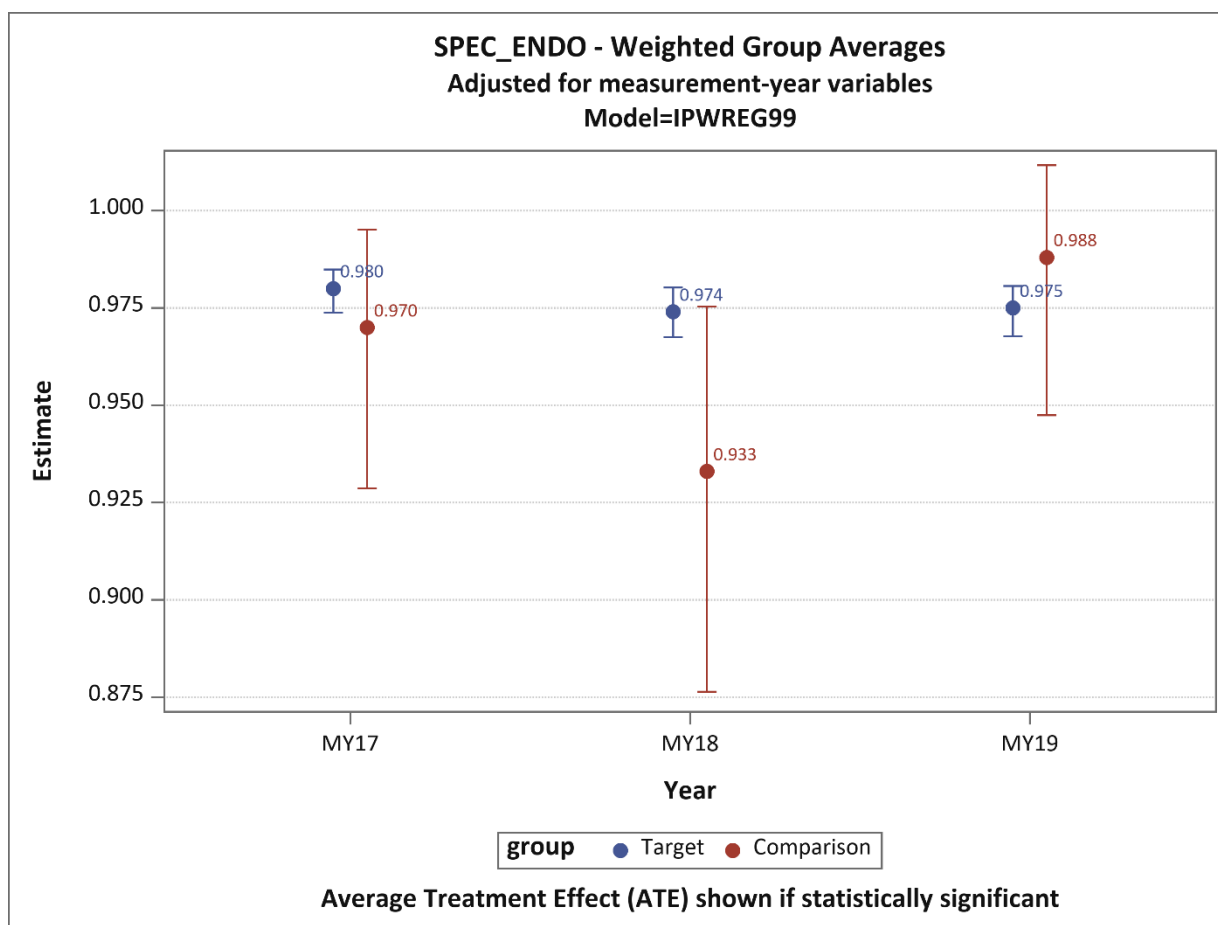


Figure 13: Continuity of Specialist Care- Endocrinologist Weighted Group Averages

*Principal finding:* The proportion of visits with the same specialist did not differ between clients in the target and comparison groups who saw endocrinologists.

Among clients who saw a gastroenterologist for at least 2 visits, the proportion of visits with the same endocrinologist was over 90% and did not statistically differ between the target and comparison groups, although in MY19 the comparison group trended higher. Across all measurement years, the proportion of visits to the same gastroenterologist ranged from 93% to 96%.

Table 12: Continuity of Specialist Care- Gastroenterologist Results

Measure	1.b.3.c	MY17	MY18	MY19
IPWREG	Target Sample	1,264	1,246	1,466
	Comparison Sample	139	160	189
	Target Rate	0.9310	0.9344	0.9382
	Comparison Rate	0.9448	0.9342	0.9631
	Rate Difference	-0.0138	0.0002	-0.0249
	P Value	0.4742	0.9896	0.3066
Propensity scores trimmed at the:			1st–99th percentiles	

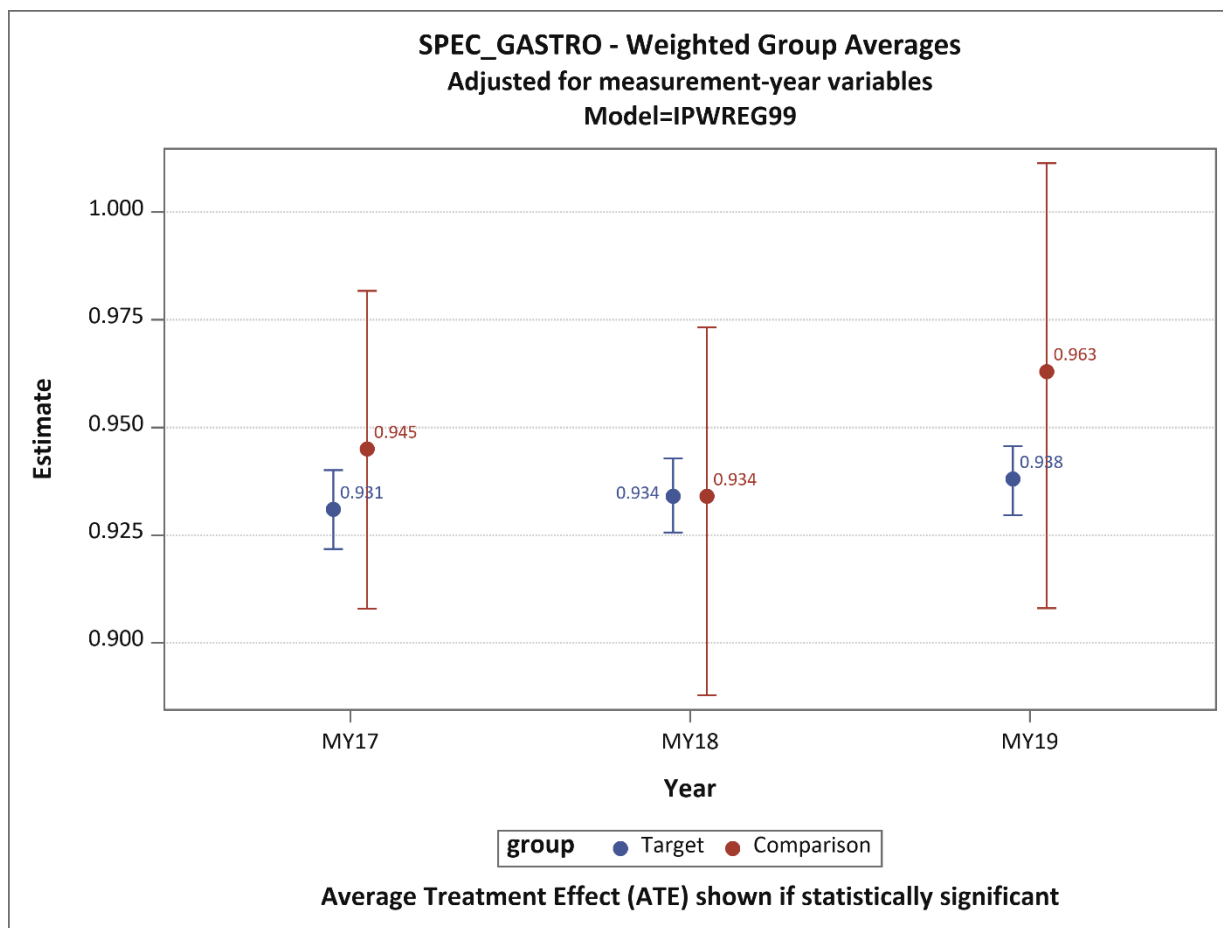


Figure 14: Continuity of Specialist Care- Gastroenterologist Weighted Group Averages

*Principal finding:* The proportion of visits with the same specialist did not differ between clients in the target and comparison groups who saw gastroenterologists.

Clients in the target group who saw an oncologist had significantly higher rates of seeing the same oncologist, in all measurement years. Although in general the continuity rates with oncologists were high, clients in the target group were more likely to see the same oncologist by 4.3 percentage points (0.14, 8.96 CI) in MY17, by 7.2 percentage points (2.30, 12.54 CI) in MY18, and by 4.4 percentage points (-0.14, 9.36 CI) in MY19.

Table 13: Continuity of Specialist Care- Oncologist Results

Measure	1.b.3.d	MY17	MY18	MY19
IPWREG	Target Sample	1,070	1,073	1,534
	Comparison Sample	156	190	223
	Target Rate	0.9607	0.9451	0.9580
	Comparison Rate	0.9177	0.8729	0.9136
	Rate Difference	0.0430	0.0722	0.0444
	P Value	0.0193	0.0006	0.0181
Propensity scores trimmed at the:			1st–99th percentiles	

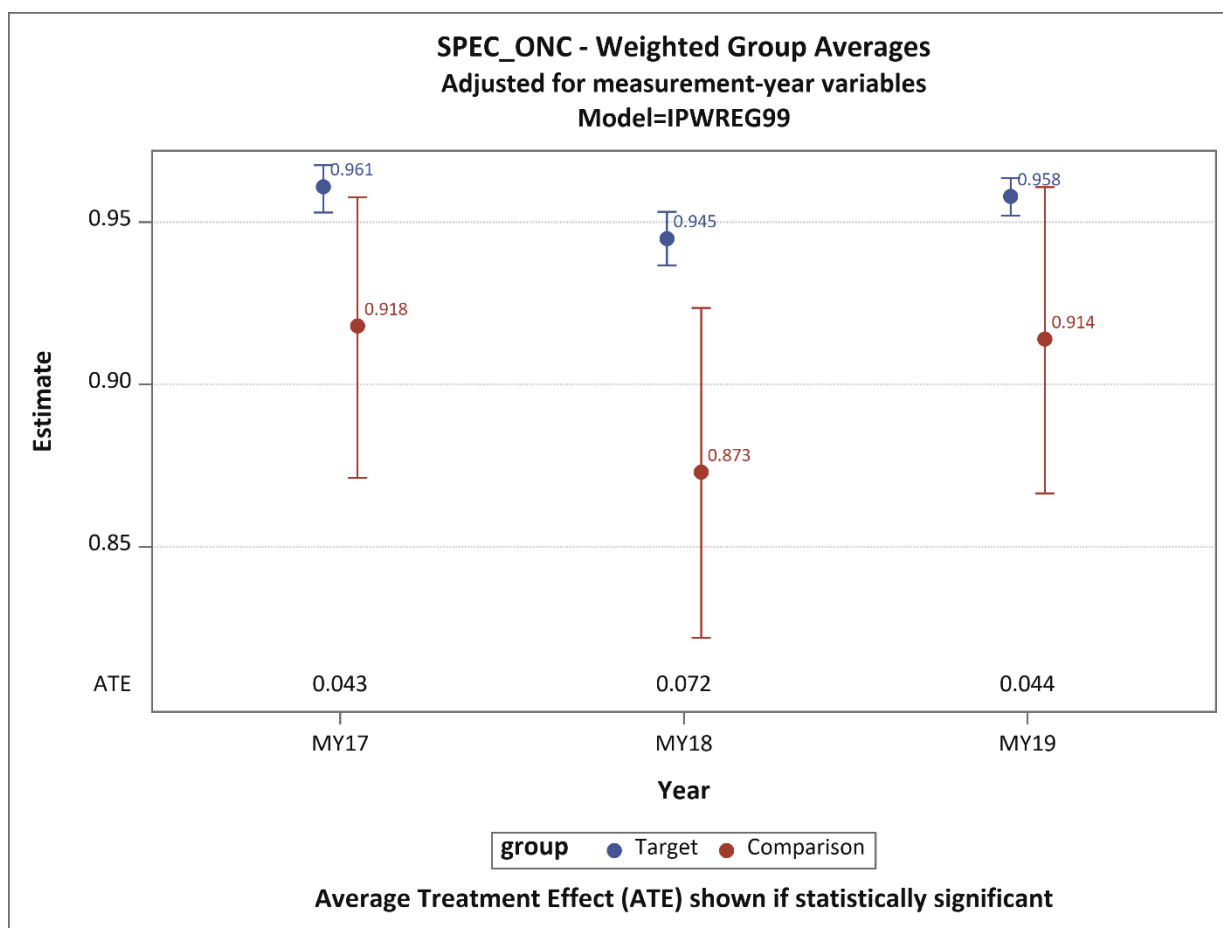


Figure 15: Continuity of Specialist Care- Oncologist Weighted Group Averages

**Principal finding:** The proportion of visits with the same specialist was higher in all measurement years for clients in the target group who saw oncologists.

Clients in the target group who saw a pulmonologist were more likely than those in the comparison group to have seen the same pulmonologist in MY18 (95% vs. 82%, respectively; difference  $p < .0001$ ). Smaller differences between the groups' estimated rates in MY17 and MY19 were not statistically significant. This was partly due to small sample sizes leading to more uncertainty in estimated rates for the comparison group, as shown by wide confidence intervals in the figure below.

Table 14: Continuity of Specialist Care- Pulmonologist Results

Measure	1.b.3.e	MY17	MY18	MY19
IPWREG	Target Sample	848	864	1,056
	Comparison Sample	83	119	100
	Target Rate	0.9544	0.9476	0.9419
	Comparison Rate	0.9131	0.8196	0.8744
	Rate Difference	0.0413	0.1281	0.0676
	P Value	0.1221	<.0001	0.0893
Propensity scores trimmed at the:			1st–99th percentiles	

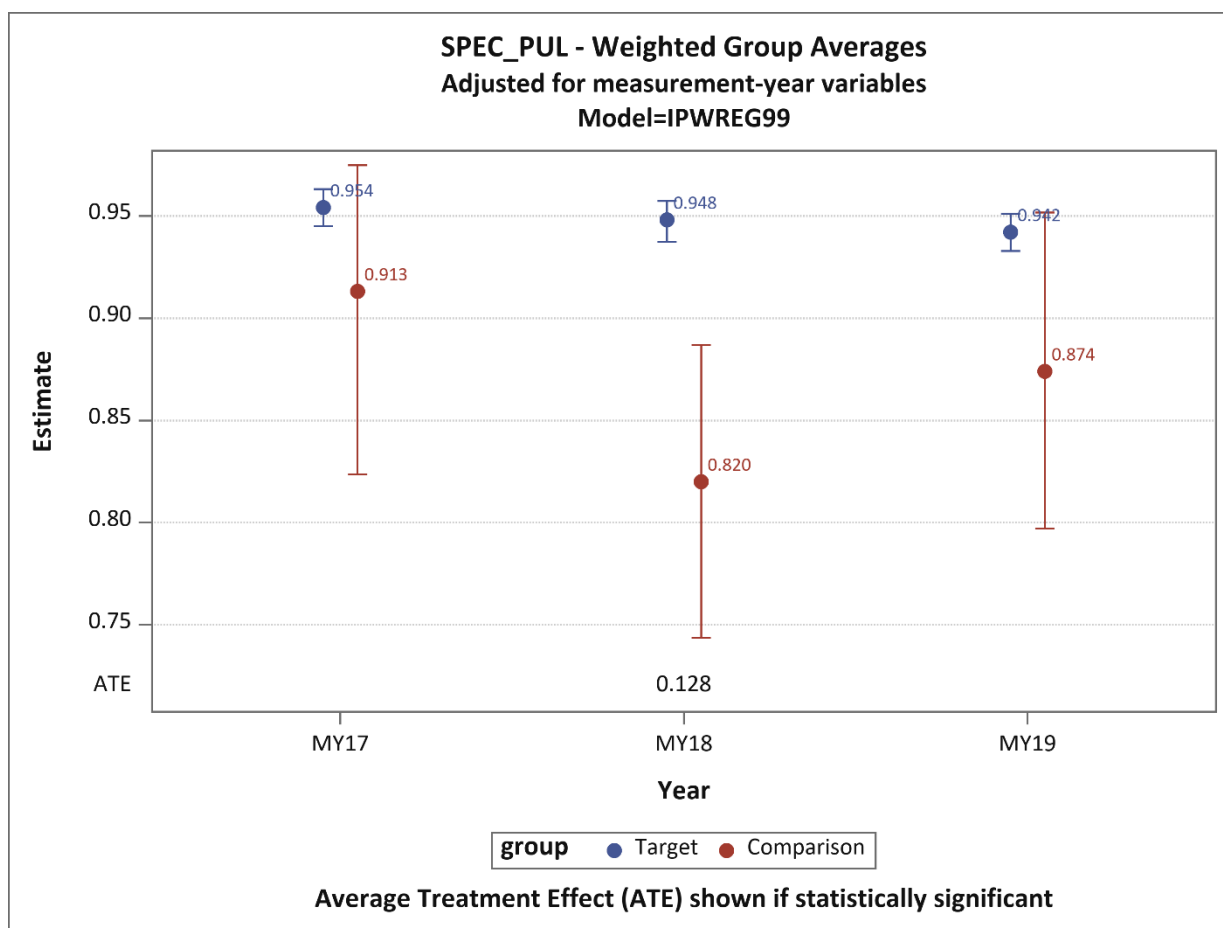


Figure 16: Continuity of Specialist Care- Pulmonologist Weighted Group Averages

**Principal finding:** The proportion of visits with the same specialist was higher in MY18 for clients in the target group who saw pulmonologists.



## 6.2 ACCESS TO CARE RESULTS

### 6.2.a.a Primary and Specialty Care

**Network Adequacy** was assessed by geospatial analysis to identify the proportion of Arkansas without a PCP within 30 miles or without one of six in-network specialists within 60 miles; results are provided in Table 15. There are essentially no areas in the state without a primary care provider within 30 miles, and without a BH/SUD provider, cardiologist, and OB/GYN, within 60 miles. Although there are very small portions of the state (2% or less) without an endocrinologist, oncologist, or pulmonologist within 60 miles, any difference in coverage between the QHP and FFS networks are minimal.

Overall, there are no meaningful differences in network adequacy between the target and comparison networks. Both networks met the network adequacy standards of AID.

Table 15: Network Adequacy for Primary Care and Specialty Providers

Network Adequacy Measure and Study Population	2017 Proportion (Square Miles)	2018 Proportion (Square Miles)	2019 Proportion (Square Miles)
<b>Measure</b>	<b>2.a.1 Proportion of service area <i>without</i> primary care coverage within 30 miles</b>		
Target	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)
Comparison	0.0000 (0.00)	0.0000 (0.00)	0.0001 (5.52)
<b>Measure</b>	<b>2.a.3.i Proportion of service area <i>without</i> a BH/SUD provider within 60 miles</b>		
Target	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)
Comparison	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)
<b>Measure</b>	<b>2.a.3.ii Proportion of service area <i>without</i> a cardiologist within 60 miles</b>		
Target	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)
Comparison	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)
<b>Measure</b>	<b>2.a.3.iii Proportion of service area <i>without</i> an endocrinologist within 60 miles</b>		
Target	0.1053 (5,601.79)	0.1214 (6,453.95)	0.1342 (7,135.15)
Comparison	0.1306 (6,497.88)	0.1292 (6,869.64)	0.1285 (6,836.19)

Network Adequacy Measure and Study Population	2017 Proportion (Square Miles)	2018 Proportion (Square Miles)	2019 Proportion (Square Miles)
<b>Measure</b>	<b>2.a.3.iv Proportion of service area <i>without</i> an OB/GYN within 60 miles</b>		
Target	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)
Comparison	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)
<b>Measure</b>	<b>2.a.3.v Proportion of service area <i>without</i> an oncologist within 60 miles</b>		
Target	0.0036 (191.09)	0.0000 (0.00)	0.0000 (0.00)
Comparison	0.044 (232.13)	0.0000 (0.00)	0.0000 (0.00)
<b>Measure</b>	<b>2.a.3.vi Proportion of service area <i>without</i> a pulmonologist within 60 miles</b>		
Target	0.0165 (874.93)	0.0188 (1,001.89)	0.0179 (953.91)
Comparison	0.0002 (12.2)	0.0002 (12.2)	0.0002 (12.2)

*Principal finding:* Both the target and comparison networks are adequate in terms of primary care coverage and specialty coverage for the six specialties included in the analysis.

**Network Access** was assessed by geospatial analysis to identify the proportion of target and comparison clients who resided within 30 miles of a PCP or within 60 miles of one of six in-network specialists; results are provided in the table below.

There was no difference in the proportion of target and comparison clients within 30 miles of a PCP and no difference in the proportion of clients within 60 miles of most specialists. All clients in both groups were within 30 miles of a PCP over the three-year period. All clients in both groups were within 60 miles of a BH/SUD provider, a cardiologist, and an OB/GYN over the three-year period.

The only indicators with observed differences between target and comparison clients were proximity to endocrinologists and pulmonologists, with the difference for the latter being extremely small. The only indicator with fewer than 99% of clients meeting the standard is proximity to endocrinologists. Across all three years, the proportion of comparison clients is slightly higher than the proportion of target clients within 60 miles of an in-network endocrinologist.

Both the target and comparison networks met the geographic access standards of AID.

Table 16: Network Accessibility to Primary Care and Specialty Providers

Geographic Access Indicator and Study Population	2017 Proportion (number of clients)	2018 Proportion (number of clients)	2019 Proportion (number of clients)
<b>Measure</b>	<b>2.a.2 Proportion of clients within 30 miles of a primary care physician</b>		
Target	1.0 (222,282)	1.0 (205,144)	1.0 (183,425)
Comparison	1.0 (37,453)	1.0 (39,799)	1.0 (39,932)
<b>Measure</b>	<b>2.a.4.i Proportion of clients within 60 miles of a BH/SUD provider</b>		
Target	1.0 (222,282)	1.0 (205,144)	1.0 (183,425)
Comparison	1.0 (37,453)	1.0 (39,799)	1.0 (39,932)
<b>Measure</b>	<b>2.a.4.ii Proportion of clients within 60 miles of a cardiologist</b>		
Target	1.0 (222,282)	1.0 (205,144)	1.0 (183,425)
Comparison	1.0 (37,453)	1.0 (39,799)	1.0 (39,932)
<b>Measure</b>	<b>2.a.4.iii Proportion of clients within 60 miles of an endocrinologist</b>		
Target	0.9120 (202,732)	0.9254 (189,835)	0.9216 (169,039)
Comparison	0.9601 (35,958)	0.9327 (37,119)	0.9448 (37,729)
<b>Measure</b>	<b>2.a.4.iv Proportion of clients within 60 miles of an OB/GYN</b>		
Target	1.0 (222,282)	1.0 (205,144)	1.0 (183,425)
Comparison	1.0 (37,453)	1.0 (39,799)	1.0 (39,932)

Geographic Access Indicator and Study Population	2017 Proportion (number of clients)	2018 Proportion (number of clients)	2019 Proportion (number of clients)
<b>Measure</b>	<b>2.a.4.v Proportion of clients within 60 miles of an oncologist</b>		
Target	0.9985 (221,951)	1.0 (205,144)	1.0 (183,425)
Comparison	0.9954 (37,281)	1.0 (39,799)	1.0 (39,932)
<b>Measure</b>	<b>2.a.4.vi Proportion of clients within 60 miles of a pulmonologist</b>		
Target	0.9949 (221,149)	0.9948 (204,068)	0.9952 (182,548)
Comparison	1.0 (37,453)	1.0 (39,799)	1.0 (39,932)

*Principal finding:* Clients in the target group have slightly less access to endocrinologists relative to the comparison group. Despite this difference, the vast majority (91%) of clients in the target group are within 60 miles of an in-network endocrinologist.

### **6.2.a.b Essential Community Providers**

#### Background

ECPs are defined as providers that serve predominantly low-income, medically underserved individuals, and specifically include providers described in section 340B of the Public Health Service (PHS) Act and the Social Security Act.

The Affordable Care Act stipulates that QHPs are required to have a sufficient number and geographic distribution of ECPs, where available, to ensure reasonable and timely access to a broad range of such providers for low-income, medically underserved individuals in the plans' service area, in accordance with federal network adequacy standards described in 45 Code of Federal Regulations (CFR) 156.235. CMS has established two ECP standards: the general ECP standard and the alternate ECP standard.

The Arkansas Insurance Department is responsible for reviewing the plan's compliance with Essential Community Provider Standards as set forth by CMS and outlined in annual Notice of Benefit and Payment Parameter regulations and the Letter to Issuers in the Federally Facilitated Marketplace (FFM). AID is responsible for ensuring QHP issuers offer provider network of each of its QHPs that includes ECPs in sufficient number and geographic distribution to ensure reasonable and timely access to a broad range of such providers for low income and medically underserved individuals in QHP service areas. Additionally, this standard ensures issuers complying with 45 CFR 156.235(e), which requires that QHP issuers must pay an amount to FQHCs that is not less than the amount of payment that would have been paid to the center under section 1902(bb) of the Social Security Act for such item or service, as specified in section 1302(g) of the Affordable Care Act.

CMS defines the ECP Categories and Provider Types as outlined below:

*Table 17: Network Accessibility to Primary Care and Specialty Providers*

Major ECP Category	ECP Provider Types
Federally Qualified Health Centers (FQHC)	FQHC and FQHC “Look-Alike” Clinics, Outpatient health programs/facilities operated by Indian tribes, tribal organizations, programs operated by Urban Indian Organizations
Ryan White Providers	Ryan White HIV/AIDS Program Providers
Family Planning Provider	Title X Family Planning Clinics and Title X “Look-Alike” Family Planning Clinics
Indian Health Providers	Indian Health Service (IHS providers), Indian Tribes, Tribal organizations, and urban Indian Organizations
Hospitals	Disproportionate Share Hospital (DSH) and DSH-eligible Hospitals, Children’s Hospitals, Rural Referral Centers, Sole Community Hospitals, Free-standing Cancer Centers, Critical Access Hospitals
Other ECP Providers	STD Clinics, TB Clinics, Hemophilia Treatment Centers, Black Lung Clinics, Community Mental Health Centers, Rural Health Clinics, and other entities that serve predominantly low-income, medically underserved individuals.

To satisfy the general ECP standard as outlined by CMS,<sup>23</sup> QHP issuers must:

1. Contract with at least 20 percent of available ECPs in each plan’s service area to participate in the plan’s provider network.
2. Offer contracts in good faith to all available Indian health care providers in the plan’s service area for the respective QHP certification plan year.
3. Offer contracts in good faith to at least one ECP in each ECP category in each county in the service area for the respective QHP certification plan year, where an ECP in that category is available.

The standard for meeting requirements that contracts be offered in “good faith” is health plans offering contract terms comparable to those that it offers to similarly situated non-ECP providers, except for terms that would not be applicable to an ECP (such as based on the services the ECP provides).

To satisfy the alternate ECP standard, QHP issuers must:

1. Contract with at least 20 percent of available ECPs in each plan’s service area to participate in the plan’s provider network.

<sup>23</sup> Source: <https://www.cms.gov/CCIIO/Resources/Regulations-and-Guidance/Downloads/Final-2018-Letter-to-Issuers-in-the-Federally-facilitated-marketplaces-and-February-17-Addendum.pdf>

2. Offer all the categories of services provided by entities in each of the ECP categories in each county in the plan's service area as outlined in the general ECP standard, or otherwise offer a contract to at least one ECP outside of the issuer's integrated delivery system per ECP category in each county in the plan's service area.

To assess ECP network adequacy, information was extracted from each issuer's annually filed and reviewed ECP Network Adequacy Templates to determine compliance with the standard of contracting with at least 20% of available ECPs.

To determine the number of ECPs available in any given year, we relied on the list of ECPs in the "select ECPs" tab of the ECP Network Adequacy Template. Note that the number of ECPs available in the template is not exhaustive, additional ECPs may be available during the reporting year. Therefore, the proportions calculated using Total ECPs extracted from the templates should be considered an estimate.

The issuers submit completed ECP Network Adequacy Templates annually, indicating which ECPs they contract with by selecting from the approved list, and by writing in any additional providers they contract with which they believe will qualify as ECPs. Given that ECPs may write in providers, and that the Total ECPs available is non-exhaustive as explained previously, the proportions of ECPs each issuer contracted with must be considered estimates. If the issuer reported contracting with more ECPs than were available from the menu in the ECP template, Table 18 displays 100%.

Table 18 provides the number of ECPs the issuers reported in submission of the "ECP Network Adequacy Template." Individual ECPs include only Federally Qualified Health Centers and Rural Health Centers. Facility ECPs include all six allowable categories of ECPs as defined by CMS.

All issuers greatly exceeded the minimum threshold set forth by CMS for ECP network adequacy. There is no ECP network access standard, as such, this evaluation provides network adequacy results only. This differs from the proposal in which we had indicated there was a separate access measure.

Table 18: Network Adequacy Estimates - Essential Community Providers

Measure 2.a.5	2017 Estimated % of ECPs Raw N contracted (number Facility / number Individual)	2018 Estimated % of ECPs Raw N contracted (number Facility / number Individual)	2019 Estimated % of ECPs Raw N contracted (number Facility / number Individual)
Total ECPs Available <sup>1</sup>	221	224	230
Blue Cross Blue Shield	100% 247 (220 Fac / 27 Ind )	100% 246 (162 Fac / 84 Ind)	93.5% 215 (180 Fac / 35 Ind)
Centene	100% 302 (271 Fac / 31 Ind)	96.4% 216 (183 Fac / 33 Ind)	100% 229 (182 Fac / 37 Ind)
QualChoice	100% 327 (287 Fac / 40 Ind)	100% 226 (185 Fac / 41 Ind)	100% 232 (191 Fac / 41 Ind)

<sup>1</sup>Total number of ECPs available was extracted from the ECP template from the "select ECPs" tab.

*Principal finding:* All QHP issuers provide their clients with very good access to ECPs.

### 6.2.a.c Access to Care and Immunizations

In presenting our results, we focus on the regression-adjusted changes between baseline and early expansion, baseline and late expansion, and early and late expansion.

At baseline, a smaller proportion of Arkansas respondents reported having any form of health plan coverage relative to the comparison states. While both groups reported higher rates of coverage during early expansion and late expansion, the increases in coverage at both early and late expansion are significantly greater in Arkansas than in the non-demonstration, traditional Medicaid expansion, comparison states.

At baseline, a smaller proportion of Arkansas respondents reported having a personal doctor relative to the comparison states. Over time, rates of having a personal doctor in the comparison states remained relatively stable while rates in Arkansas increased. The increase in Arkansas relative to any minor change in the comparison states is significant at both early and late expansion relative to baseline.

The magnitude of the increase from baseline to early expansion in the proportion of respondents that reported having had a routine checkup is significantly greater in Arkansas relative to the comparison states; the same is true for the increase from early expansion to late expansion.

The magnitude of the increase from baseline to early expansion in the proportion of respondents that reported having a flu shot is significantly greater in Arkansas relative to the comparison states. However, by late expansion, flu shot rates in Arkansas return to baseline levels while rates in comparison states have steadily increased.

The proportion of respondents who reported avoiding care due to cost decreased over time in both Arkansas and the comparison states. The magnitude of the change from baseline to early expansion is significantly greater in Arkansas than the comparison states. The magnitude of the change from baseline to late expansion is significantly greater in the comparison states than in Arkansas.

These results are summarized in Table 19. The raw unadjusted proportion of respondents who answered ‘yes’ to each question is shown by time period. The results of the regression provide the adjusted estimated differences between these proportions.

Table 19: Behavioral Risk Factor Surveillance System Survey Measures

	TIME PERIOD <sup>1</sup>			ESTIMATED DIFFERENCES <sup>2</sup>		
	Baseline 2011–2013	Early Expansion 2014–2016	Late Expansion 2017–2019	Early Expansion – Baseline	Late Expansion – Baseline	Late Expansion – Early Expansion
<b>Measure 2.a.8.a. Have Health Care Coverage</b>						
Arkansas (n=8,365)	0.508	0.765	0.809	0.262	0.304	0.042
Comparison (57,046)	0.680	0.825	0.858	0.149	0.183	0.033
<i>Estimated Differences in Differences: AR – CS =</i>				0.113 p<.001	0.121 p<.000001	0.009 p>.1

	TIME PERIOD <sup>1</sup>			ESTIMATED DIFFERENCES <sup>2</sup>		
	Baseline 2011–2013	Early Expansion 2014–2016	Late Expansion 2017–2019	Early Expansion – Baseline	Late Expansion – Baseline	Late Expansion – Early Expansion
<b>Measure 2.a.8.b. Have Personal Doctor</b>						
Arkansas (n=8,365)	0.649	0.703	0.723	0.069	0.082	0.013
Comparison (56,415)	0.734	0.733	0.749	0.015	0.031	0.016
<i>Estimated Differences in Differences: AR – CS =</i>				0.053 p<.001	0.050 p<.001	-0.003 p>.1
<b>Measure 2.a.8.c. Last Routine Checkup</b>						
Arkansas (n=8,369)	0.510	0.611	0.696	0.117	0.199	0.082
Comparison (57,041)	0.625	0.655	0.721	0.045	0.105	0.060
<i>Estimated Differences in Differences: AR – CS =</i>				0.072 p<.00001	0.094 p<.000001	0.022 p<.1
<b>Measure 2.a.8.d. Avoided Care Due to Cost</b>						
Arkansas (n=8,365)	0.430	0.306	0.277	-0.117	-0.149	-0.032
Comparison (57,042)	0.322	0.246	0.197	-0.073	-0.127	-0.054
<i>Estimated Differences in Differences: AR – CS =</i>				-0.044 p<.05	-0.022 p>.1	0.022 p<.01
<b>Measure 2.a.8.e. Flu Vaccine</b>						
Arkansas (n=8,365)	0.265	0.310	0.269	0.046	0.002	-0.044
Comparison (57,042)	0.282	0.299	0.311	0.025	0.030	0.005
<i>Estimated Differences in Differences: AR – CS =</i>				0.021 p<.1	-0.028 p<.05	-0.048 p<.000001

<sup>1</sup> The time period columns provide results from the unadjusted interrupted time series model; the proportions are unadjusted.

<sup>2</sup> The estimated differences columns provide results from the DiD models which are adjusted for demographic covariates.

**Principal finding:** Arkansas Medicaid expansion is beneficial for low-income adults in terms of increasing rates of coverage and access to care (having a personal doctor and getting a routine check-up), relative to the comparison states. It should be noted that the comparison states reported relatively better access to care and immunizations at baseline compared to Arkansas, therefore, Arkansas had a greater opportunity to improve. Medicaid expansion does not appear to impact flu shot rates.



### 6.2.b.1 Breast Cancer Screening

In women ages 50–64, the percentage who had a mammogram during or in the 15 months prior to the measurement year was significantly higher in the target group than in the comparison group, in all measurement years. The percentage-point increases in each year ranged from 14% to 21%.

The propensity score model for clients in the denominator of the breast cancer screening measure did not achieve balance in the distribution of covariates across the target and comparison groups, possibly due to the higher ages required for eligibility and the resulting large imbalance in sample size between the groups. Instead, logistic regression was performed on the measure outcome, with regression adjustment (REGADJ) of the baseline covariates of age, race/ethnicity, rural zip code, percent minority population in the zip code tabulation area, and age interactions with race/ethnicity, rural, and minority. Due to small sample sizes and/or lack of variation in the comparison group, additional baseline characteristics and post-treatment variables could not be controlled for.

Table 20: Breast Cancer Screening Measure Results

Measure	2.b.1	MY17	MY18	MY19
REGADJ	Target Sample	13,388	14,024	15,182
	Comparison Sample	195	221	279
	Target Rate	0.4642	0.4956	0.5065
	Comparison Rate	0.3228	0.2896	0.3353
	Rate Difference	0.1414	0.2060	0.1712
	P Value	0.0021	<.0001	<.0001

*Principal finding:* The percentage of women who received a screening for breast cancer was higher in the target group in all MY.

### 6.2.b.2 Cervical Cancer Screening

Cervical cancer screening was defined as cervical cytology performed during the measurement year or the two years prior, or for women at least 30 years old, cervical cytology/HPV co-testing during the measurement year or the four years prior. After adjusting for group selection, confounders, and measurement-year effects, the target group had small but significantly decreased rates of cervical cancer screening: 2.8 percentage points lower in MY17 (-4.1, -1.8 CI), 2.1 percentage points lower in MY18 (-3.2, -0.93 CI), and 3.1 percentage points lower in MY19 (-4.4, -1.9 CI). The lower rates may be in part due to the longer lookback period for women over 30. Most Arkansas Works clients were newly enrolled before the evaluation period and may have had incomplete historical claims data.

Table 21: Cervical Cancer Screening Measure Results

Measure	2.b.2	MY17	MY18	MY19
IPWREG	Target Sample	73,684	65,761	67,172
	Comparison Sample	20,486	22,523	22,769
	Target Rate	0.4300	0.4583	0.4508
	Comparison Rate	0.4584	0.4790	0.4820
	Rate Difference	-0.0284	-0.0208	-0.0312
	P Value	<.0001	0.0004	<.0001
Propensity scores trimmed at the:			5th–95th percentiles	

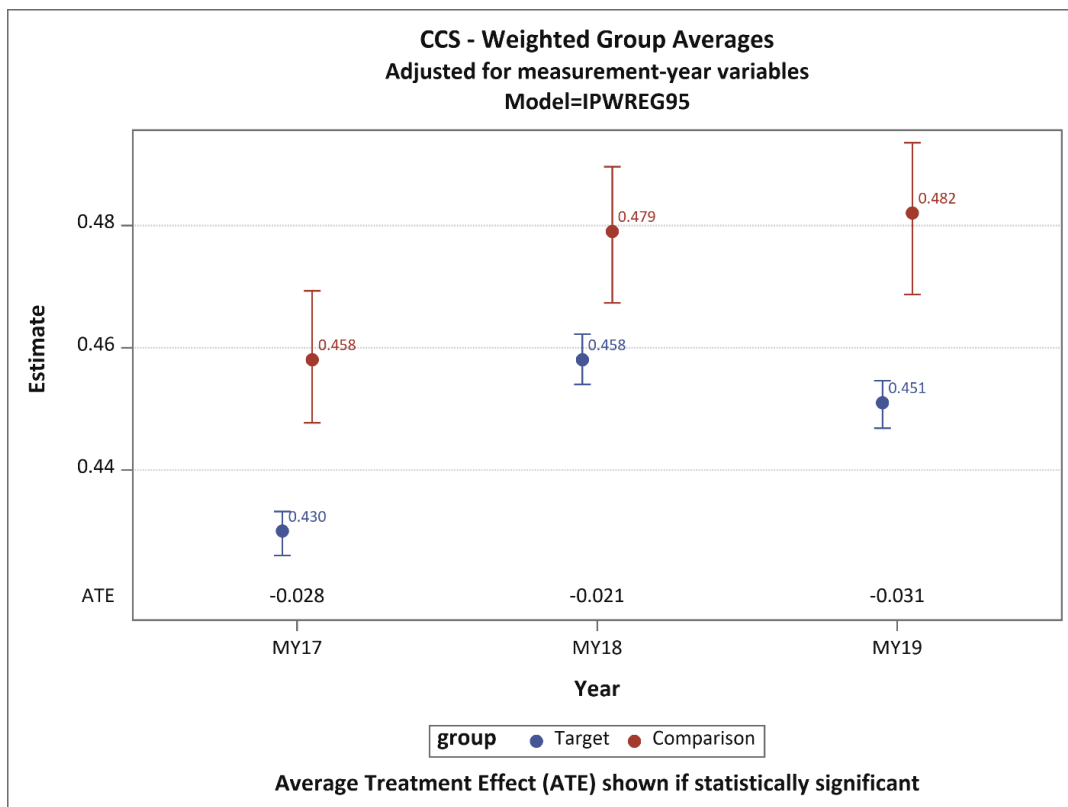


Figure 17: Cervical Cancer Screening Measure Weighted Group Averages

*Principal finding:* The target group had a lower rate of screening for cervical cancer in all MY.

### 6.2.b.3 Statin Therapy for Patients with Diabetes

In clients 40-64 years of age with diabetes, the percentage who were dispensed a statin medication during the measurement year was significantly lower in the comparison group. After adjusting for group selection, the target group was more likely to have been dispensed a statin by 8.5 percentage points (-0.010, 0.177 CI) in MY17, 9.1 percentage points (0.005, 0.173 CI) in MY18, and 13.4 percentage points (0.066, 0.203 CI) in MY19.

The doubly robust estimators of the IPWREG model were less precise than estimates of the IPWS model, and outlier weight values may have overly influenced the IPWREG results because of small sample sizes. Therefore, the inverse-probability weighted (IPWS) model results adjusted for bias due to group selection are shown.

Table 22: Statin Therapy for Patients with Diabetes Results

Measure	2.b.3	MY17	MY18	MY19
IPWS	Target Sample	4,917	4,809	5,739
	Comparison Sample	235	339	407
	Target Rate	0.4935	0.5438	0.5775
	Comparison Rate	0.4083	0.4533	0.4434
	Rate Difference	0.0853	0.0905	0.1341
	P Value	0.0450	0.0183	0.0001
Propensity scores trimmed at the:			1st–99th percentiles	

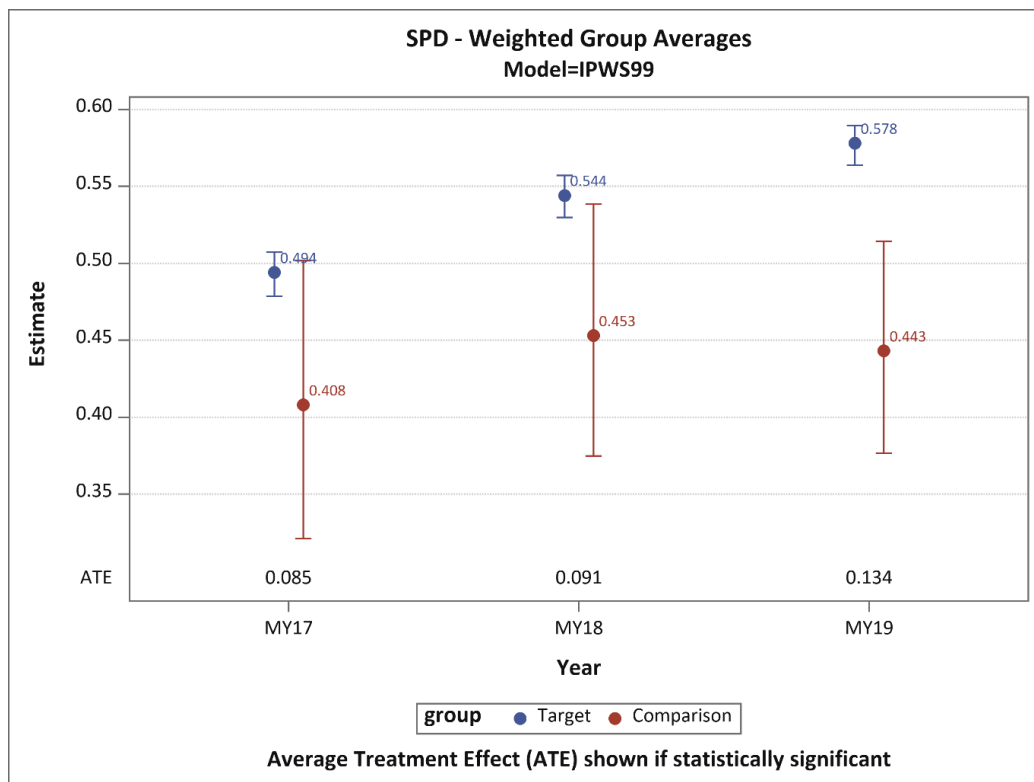


Figure 18: Statin Therapy for Patients with Diabetes Weighted Group Averages

**Principal finding:** Clients in the target group with diabetes were more likely to have been dispensed a statin medication, in all measurement years.

#### 6.2.b.4 Comprehensive Diabetes Care: Hemoglobin A1c Testing

Clients in the target group with a diagnosis of type 1 or type 2 diabetes in the measurement year or the year prior were significantly more likely to have had an HbA1c test during the measurement year. The Arkansas Works demonstration increased the chance of having an HbA1c test by 14.1 percentage points in MY17 (9.37, 19.42 CI), 20.1 percentage points in MY18 (15.5, 24.5 CI), and 17.7 percentage points in MY19 (12.3, 22.4 CI), after adjustment for group selection, confounders, and measurement-year effects.

Table 23: Hemoglobin A1c Testing Results

Measure	2.b.4	MY17	MY18	MY19
IPWREG	Target Sample	6,503	6,832	7,175
	Comparison Sample	1,008	1,313	1,358
	Target Rate	0.8029	0.8217	0.8321
	Comparison Rate	0.6616	0.6203	0.6552
	Rate Difference	0.1413	0.2014	0.1769
	P Value	<.0001	<.0001	<.0001
Propensity scores trimmed at the:			5th–95th percentiles	

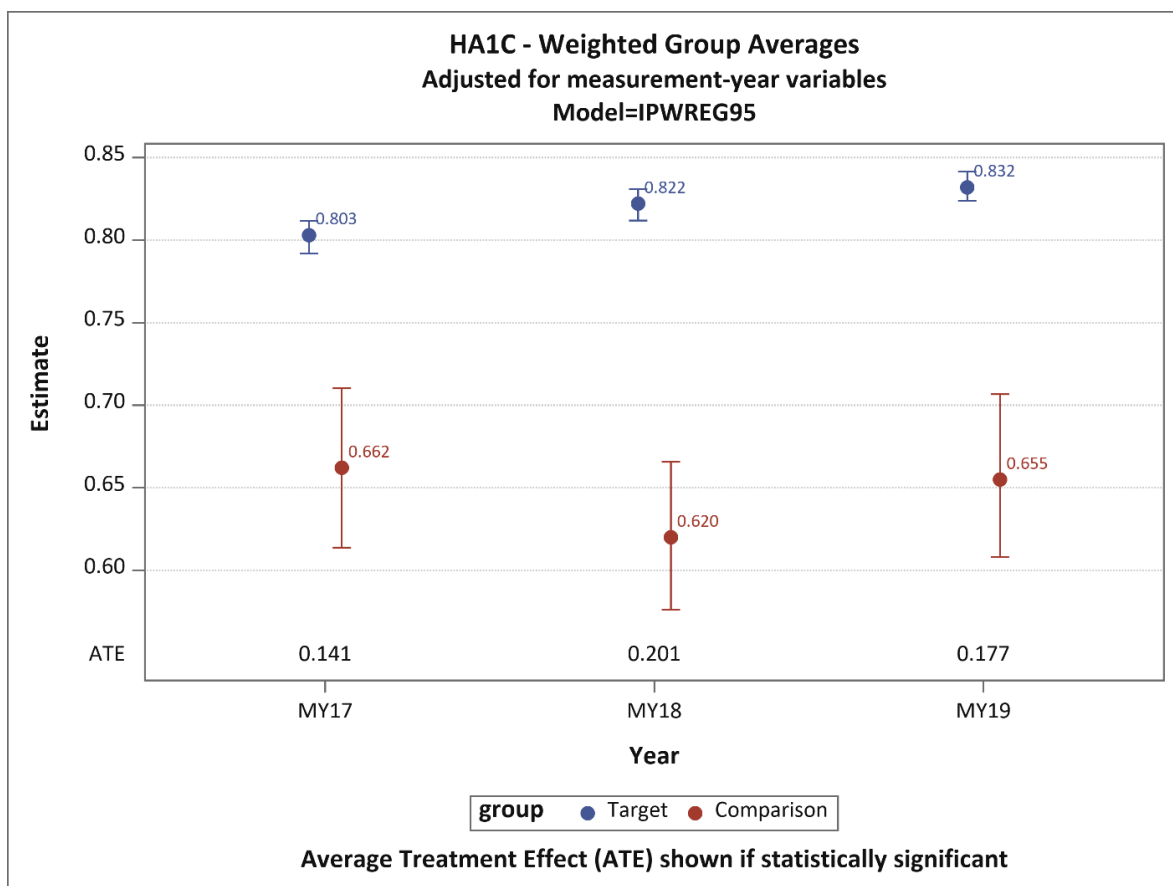


Figure 19: Hemoglobin A1c Testing Weighted Group Averages

*Principal finding:* Arkansas Works clients with diabetes were much more likely to have had an HbA1c test, in all measurement years.

### 6.2.b.5 Adult Access to Preventative/Ambulatory Health Services

Arkansas Works increased the likelihood of a client having had an ambulatory or preventive care visit during the measurement year; this effect was small but statistically significant. In both groups, estimated rates of AAP visits approached 70% in MY17 and exceeded 70% in MY18 and MY19. Clients in the Arkansas Works demonstration were more likely to have had a visit compared to clients in traditional Medicaid by 1.7 percentage points in MY17 (0.81, 2.57 CI), 1.6 percentage points in MY18 (0.74, 2.41 CI), and 1.2 percentage points in MY19 (0.38, 2.12 CI), after adjustment for group selection, confounders, and measurement-year effects.

Table 24: Adult Access to Preventative/Ambulatory Health Services Results

Measure	2.b.5	MY17	MY18	MY19
IPWREG	Target Sample	155,173	127,055	132,492
	Comparison Sample	28,490	30,473	30,988
	Target Rate	0.6927	0.7381	0.7469
	Comparison Rate	0.6756	0.7225	0.7345
	Rate Difference	0.0172	0.0156	0.0124
	P Value	0.0002	0.0003	0.0063
Propensity scores trimmed at the:			5th–95th percentiles	

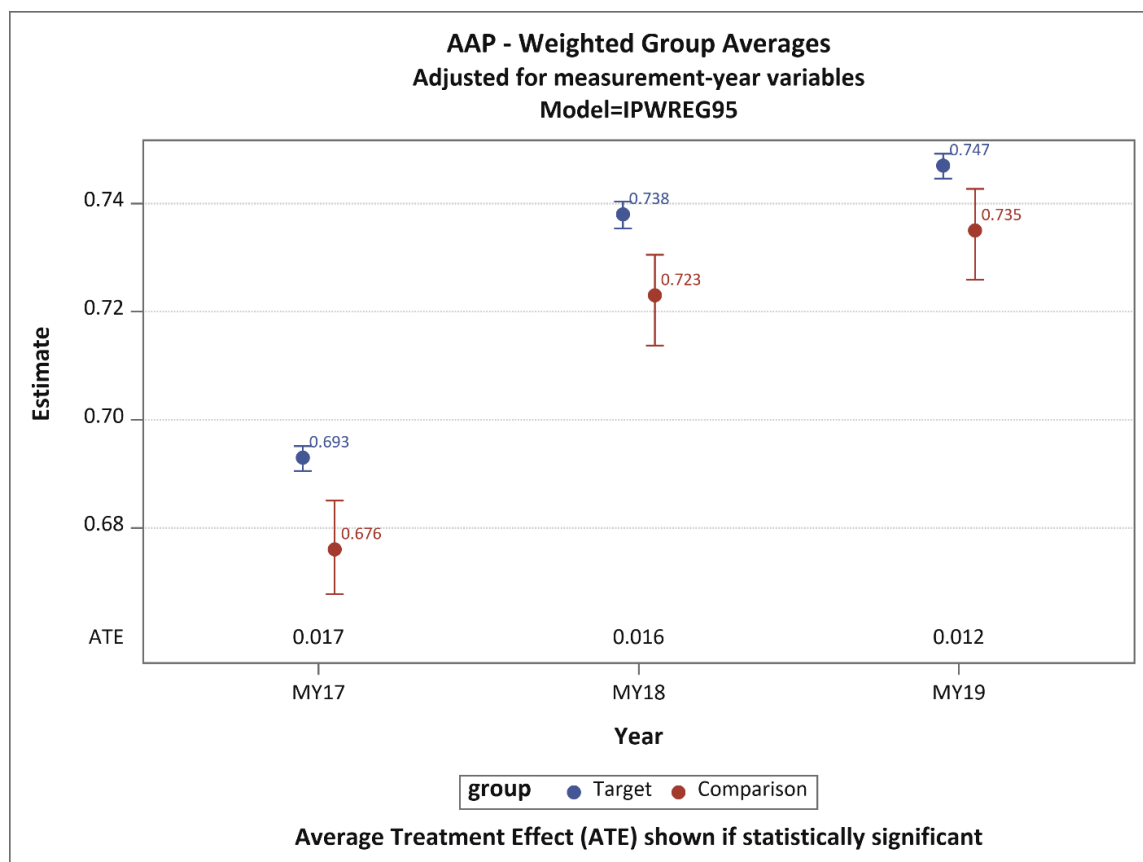


Figure 20: Adult Access to Preventative/Ambulatory Health Services Weighted Group Averages

**Principal finding:** Arkansas Works clients were more likely to have had an ambulatory or preventive care visit, in all measurement years.

### 6.2.c.1 Non-Emergent Emergency Department (ED) Visits

Approximately 33% to 34% of visits to the emergency department from MY17 to MY19 were classified as non-emergent by the NYU algorithm<sup>24</sup>—in other words, as not having required immediate medical care within 12 hours. The percentage of non-emergent ED visits did not differ significantly between the target and comparison groups in any measurement year, after adjustment for selection, confounders, and measurement-year effects.

Table 25: Non-Emergent Emergency Department (ED) Visits Results

Measure	2.c.1	MY17	MY18	MY19
IPWREG	Target Sample	45,687	40,765	38,475
	Comparison Sample	10,993	11,814	12,096
	Target Rate	0.3323	0.3300	0.3252
	Comparison Rate	0.3394	0.3343	0.3263
	Rate Difference	-0.0071	-0.0043	-0.0011
	P Value	0.1793	0.4025	0.8404
Propensity scores trimmed at the:			5–95th percentiles	

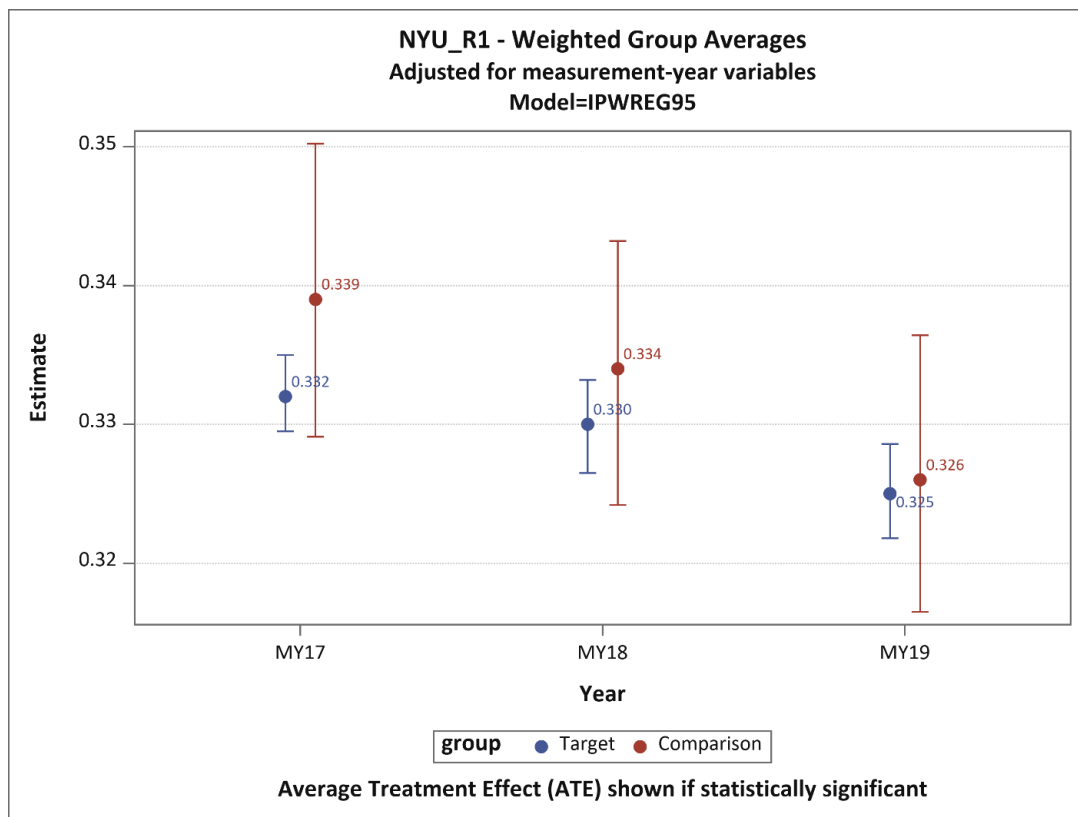


Figure 21: Non-Emergent Emergency Department (ED) Visits Weighted Group Averages

**Principal finding:** The rate of emergency department visits classified as non-emergent did not differ between the target and comparison groups, in all measurement years.

<sup>24</sup> <https://wagner.nyu.edu/faculty/billings/nyued-background>

### 6.2.c.2 Emergent Emergency Department (ED) Visits

Between 66% and 67% of visits to the emergency department from MY17 to MY19 were classified as emergent by the NYU algorithm—in other words, as having required immediate medical care within 12 hours. The rate of emergent ED visits did not differ significantly between the target and comparison groups in any measurement year, after adjustment for selection, confounders, and measurement-year effects.

Table 26: Emergent Emergency Department (ED) Visits Results

Measure	2.c.2	MY17	MY18	MY19
IPWREG	Target Sample	45,687	40,765	38,475
	Comparison Sample	10,993	11,814	12,096
	Target Rate	0.6677	0.6700	0.6748
	Comparison Rate	0.6606	0.6657	0.6737
	Rate Difference	0.0071	0.0043	0.0011
	P Value	0.1793	0.4025	0.8404
Propensity scores trimmed at the:			5th–95th percentiles	

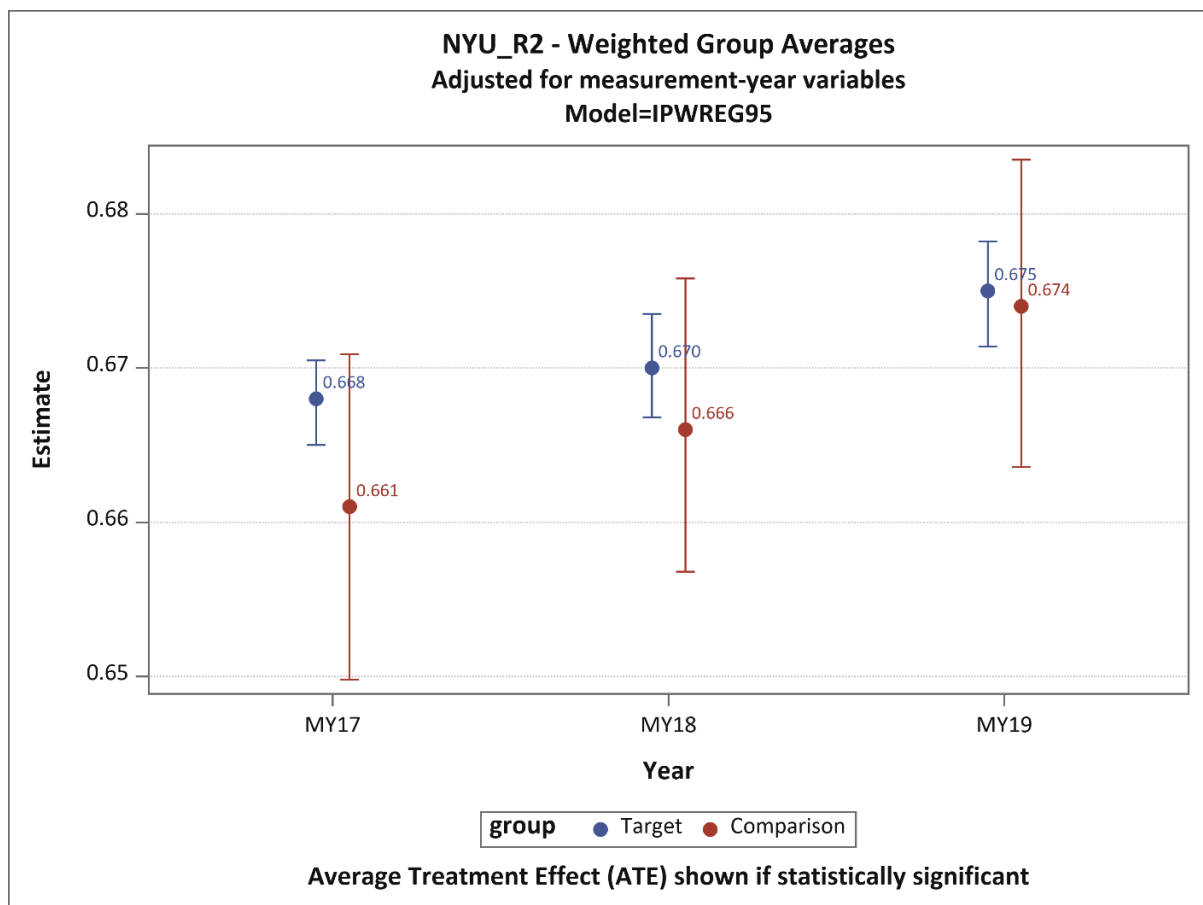


Figure 22: Emergent Emergency Department (ED) Visits Weighted Group Averages

**Principal finding:** The rate of emergency department visits classified as emergent did not differ between the target and comparison groups, in all measurement years.

### 6.2.d.1 Adolescent Well-Care Visits

The Medicaid Core Set measure Adolescent Well-Care Visits was used to assess client access to the EPSDT benefit of an annual well-child screening while enrolled in Arkansas Works.

In Tables 27–29, the Cohort column denotes the measurement year in which clients were ages 19–20 while enrolled in a QHP. The value in Cohort is repeated for 3 periods per cohort: 2 years prior to the measurement year, in which clients were enrolled in EPSDT-eligible Medicaid (FFS ages 17–18); the year prior to the measurement year, in which clients were enrolled in EPSDT-eligible Medicaid (FFS ages 18–19); and the measurement year (QHP ages 19–20). The LSMean column shows least squares means for the cohort in each time period, which are equivalent to the estimated proportion of clients passing the measure. Clients shows the cohort size at each time period, with the year prior to the measurement year having the smallest sample size due to the calendar-year cutoff for the eligible age ranges. StdErr shows the standard error of the least-squares means, which along with the 95% confidence interval bars in Figures 23–25 reflect the precision of the mean estimates.

In each Cohort, differences between the proportion of clients passing the measure in the 2 periods of FFS eligibility were tested to assess any effect of time. The statistical significance of these tests is shown in the column “P Value for Diff from FFS Ages 17–18” for rows labeled “FFS ages 18–19,” and is repeated in the column “P Value for Diff from FFS Ages 18–19” for rows labeled “FFS ages 17–18.” Tests for differences between each FFS period and the QHP period are shown in the column “P Value for Diff from QHP Ages 19–20.” P values have been adjusted for multiple comparisons.

In all measurement-year cohorts, there was a significant decrease in the proportion of clients with a well-child visit between the ages of 17–18 and 18–19 in fee-for-service Medicaid (p values < 0.0001). However, this trend did not continue into the Arkansas Works period during ages 19–20 (p values 0.6235, 0.8545, and 0.9683 in the 2017, 2018, and 2019 cohorts, respectively). Therefore, an age effect was present in the fee-for-service periods but no effect of transitioning to QHP coverage was detected.

Table 27: Adolescent Well-Care Visits Results

Measure		2.d.1					
Cohort	Period	LSMean	Clients	StdErr	P Value for Diff from FFS Ages 17–18	P Value for Diff from FFS Ages 18–19	P Value for Diff from QHP Ages 19–20
2017	FFS ages 17–18	0.2082	4,785	0.0059	N/A	<.0001	<.0001
2017	FFS ages 18–19	0.1448	1,177	0.0103	<.0001	N/A	0.6235
2017	QHP ages 19–20	0.1346	4,991	0.0048	<.0001	0.6235	N/A
2018	FFS ages 17–18	0.2617	5,112	0.0061	N/A	<.0001	<.0001
2018	FFS ages 18–19	0.1672	1,007	0.0118	<.0001	N/A	0.8545
2018	QHP ages 19–20	0.1606	5,294	0.0050	<.0001	0.8545	N/A
2019	FFS ages 17–18	0.2830	5,202	0.0062	N/A	<.0001	<.0001
2019	FFS ages 18–19	0.1805	1,077	0.0117	<.0001	N/A	0.9683
2019	QHP ages 19–20	0.1774	5,382	0.0052	<.0001	0.9683	N/A



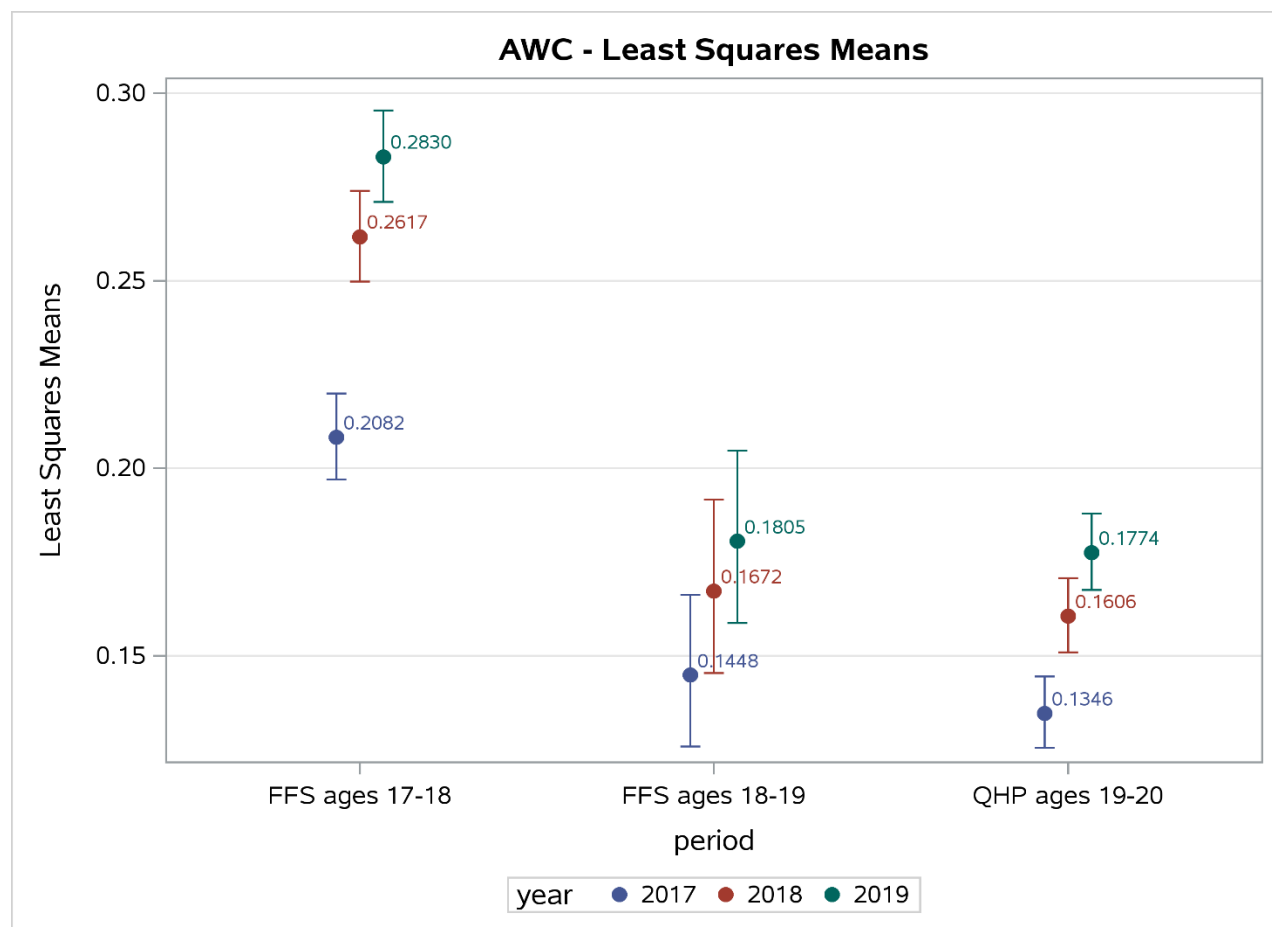


Figure 23: Adolescent Well-Care Visits Weighted Group Averages

*Principal finding:* No adverse effect of transitioning to Arkansas Works was detected in access to adolescent well-care visits in the EPSDT population.

### 6.2.d.2 EPSDT Screening – Preventive Dental Visits

The proportion of clients receiving a preventive dental visit was assessed for the same sample of clients eligible for the EPSDT AWC measure. Both age and QHP effects were detected in all cohorts, with each successive year having a significantly lower rate of clients receiving a preventive dental visit. All between-year differences were statistically significant.

Table 28: EPSDT Screening – Preventive Dental Visits Results

Measure			2.d.2				
Cohort	Period	LSMean	Clients	StdErr	P Value for Diff from FFS Ages 17–18	P Value for Diff from FFS Ages 17–19	P Value for Diff from QHP Ages 19–20
2017	FFS ages 17–18	0.4952	4,785	0.0072	N/A	<.0001	<.0001
2017	FFS ages 18–19	0.3809	1,177	0.0131	<.0001	N/A	<.0001
2017	QHP ages 19–20	0.1339	4,989	0.0048	<.0001	<.0001	N/A
2018	FFS ages 17–18	0.5145	5,112	0.0070	N/A	<.0001	<.0001
2018	FFS ages 18–19	0.4362	1,007	0.0147	<.0001	N/A	<.0001
2018	QHP ages 19–20	0.2000	5,288	0.0055	<.0001	<.0001	N/A
2019	FFS ages 17–18	0.5456	5,202	0.0069	N/A	<.0001	<.0001
2019	FFS ages 18–19	0.3778	1,007	0.0138	<.0001	N/A	<.0001
2019	QHP ages 19–20	0.2169	5,380	0.0056	<.0001	<.0001	N/A

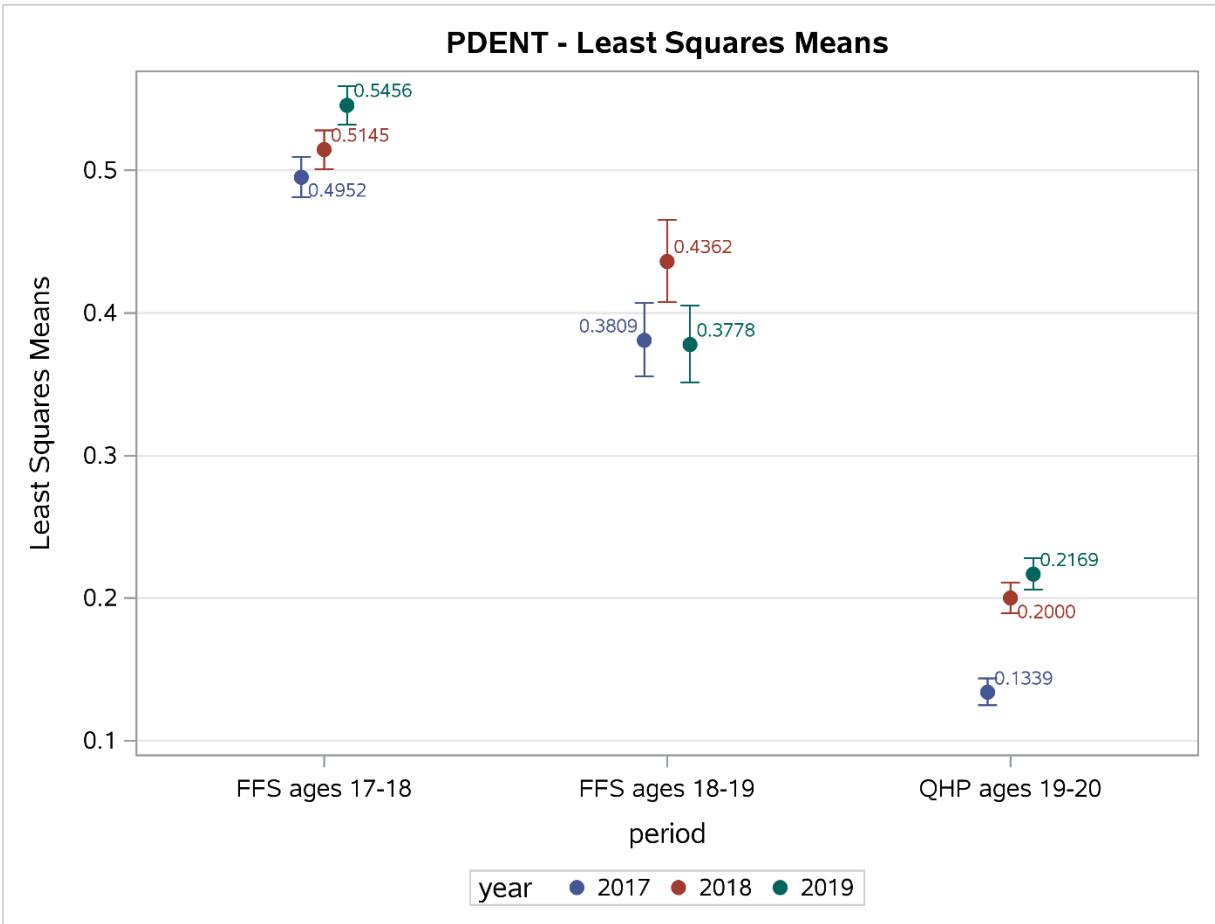


Figure 24: EPSDT Screening – Preventive Dental Visits Weighted Group Averages

*Principal finding:* The rate of preventive dental visits decreased in all time periods, suggesting negative effects of age and transitioning into QHP coverage.

### 6.2.d.3 EPSDT Screening – Preventive Vision

Preventive vision screenings were also assessed in the same sample of clients as the other EPSDT measures. The proportion of clients receiving a preventive vision visit declined during successive years in fee-for-service Medicaid, although the decline was not statistically significant in the 2017 cohort. The decline between years was steepest between the year before QHP coverage, ages 18–19, and the QHP period, ages 19–20.

Table 29: EPSDT Screening – Preventive Vision Visits Results

Measure	2.d.3						
Cohort	Period	LSMean	Clients	StdErr	P Value for Diff from FFS Ages 17–18	P Value for Diff from FFS Ages 18–19	P Value for Diff from QHP Ages 19–20
2017	FFS ages 17–18	0.3154	4,785	0.0067	N/A	0.0547	<.0001
2017	FFS ages 18–19	0.2829	1,177	0.0129	0.0547	N/A	<.0001
2017	QHP ages 19–20	0.0935	4,989	0.0041	<.0001	<.0001	N/A
2018	FFS ages 17–18	0.3552	5,112	0.0067	N/A	0.0005	<.0001
2018	FFS ages 18–19	0.2979	1,007	0.0140	0.0005	N/A	<.0001
2018	QHP ages 19–20	0.0743	5,288	0.0036	<.0001	<.0001	N/A
2019	FFS ages 17–18	0.3545	5,202	0.0066	N/A	0.0004	<.0001
2019	FFS ages 18–19	0.2979	1,077	0.0136	0.0004	N/A	<.0001
2019	QHP ages 19–20	0.0842	5,380	0.0038	<.0001	<.0001	N/A

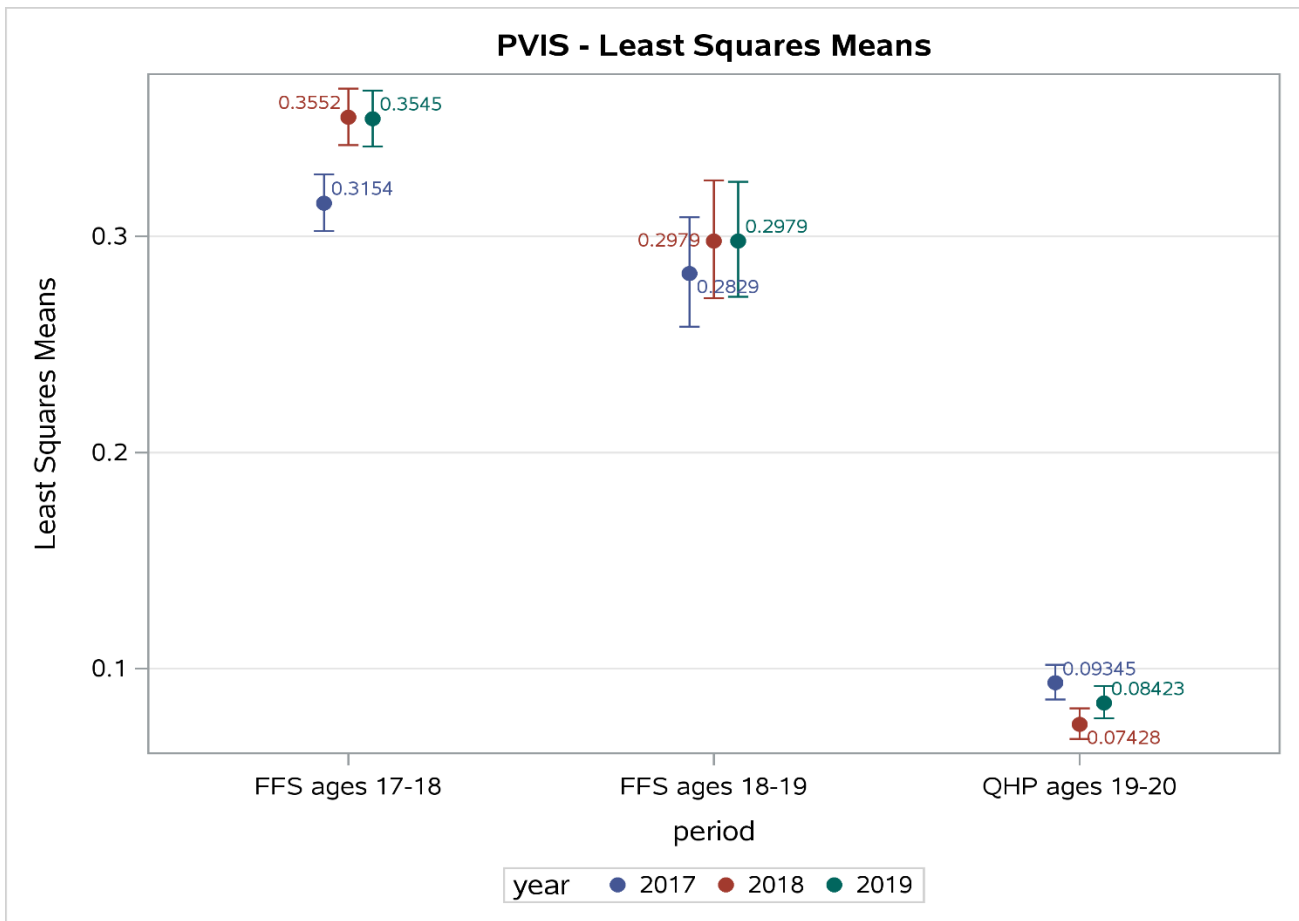


Figure 25: EPSDT Screening – Preventive Vision Visits Weighted Group Averages

*Principal finding:* The rate of preventive vision visits was lowest in the QHP coverage period.

## 6.3 QUALITY OF CARE RESULTS

### 6.3.b.1 Preventable Emergency Department (ED) Visits

Approximately 9% of emergency department visits per year, in both target and comparison groups, were classified by the NYU algorithm<sup>25</sup> as preventable ED visits—in other words, as having required immediate medical care within 12 hours, but the emergent nature could have been prevented or avoided with more timely or effective ambulatory care. Differences between the groups were not statistically significant. Because the MY17 and MY18 IPWREG models additionally adjusting for measurement-year effects had convergence issues, results from the IPWS models weighted to adjust for selection bias are shown below.

Table 30: Preventable Emergency Department (ED) Visits Results

Measure	3.b.1	MY17	MY18	MY19
IPWS	Target Sample	45,770	40,789	38,512
	Comparison Sample	11,026	11,833	12,106
	Target Rate	0.0903	0.0919	0.0909
	Comparison Rate	0.0925	0.0941	0.0931
	Rate Difference	-0.0022	-0.0022	-0.0022
	P Value	0.3144	0.2889	0.3113
Propensity scores trimmed at the:			5th–95th percentiles	

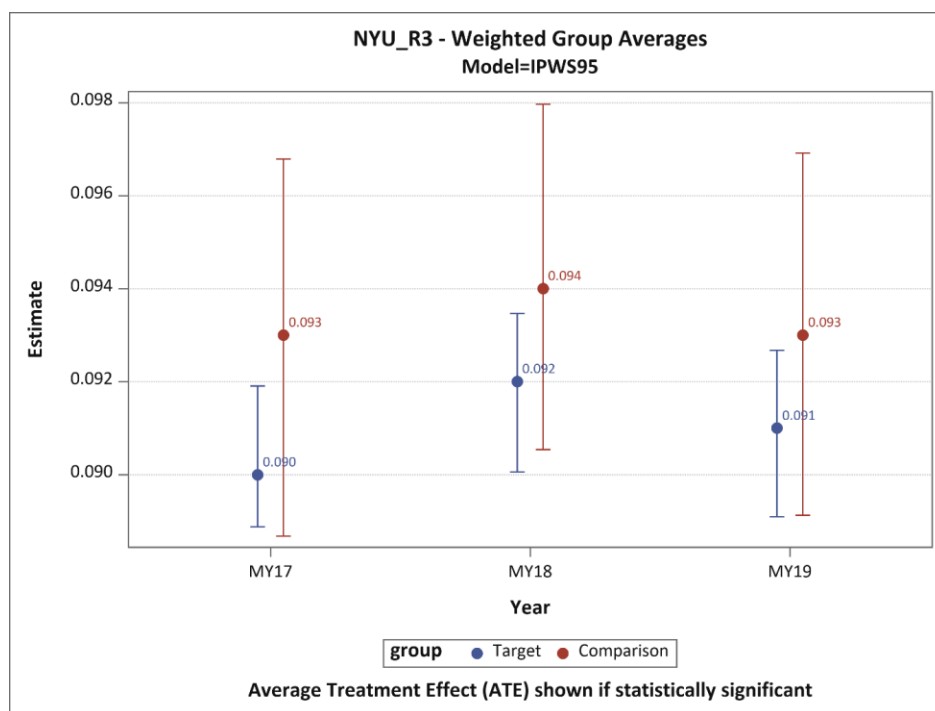


Figure 26: Preventable Emergency Department (ED) Visits Weighted Group Averages

**Principal finding:** There was no difference in the rate of preventable ED visits between the target and comparison groups.

<sup>25</sup> <https://wagner.nyu.edu/faculty/billings/nyued-background>

### 6.3.b.2 Plan All-Cause Readmissions

The number of acute inpatient stays during the measurement year that were followed by an unplanned acute readmission for any diagnosis within 30 days of discharge did not significantly differ between the target and comparison groups. In both groups, the rate of unplanned acute readmissions was approximately 4% to 6% in all measurement years, after adjustment for group selection, confounders, and measurement-year effects.

Table 31: Plan All-Cause Readmissions Results

Measure	3.b.2	MY17	MY18	MY19
IPWREG	Target Sample	4,701	5,170	4,750
	Comparison Sample	1,448	1,802	1,961
	Target Rate	0.0422	0.0456	0.0500
	Comparison Rate	0.0597	0.0449	0.0490
	Rate Difference	-0.0175	0.0007	0.0010
	P Value	0.3253	0.9520	0.9349
Propensity scores trimmed at the:			5th–95th percentiles	

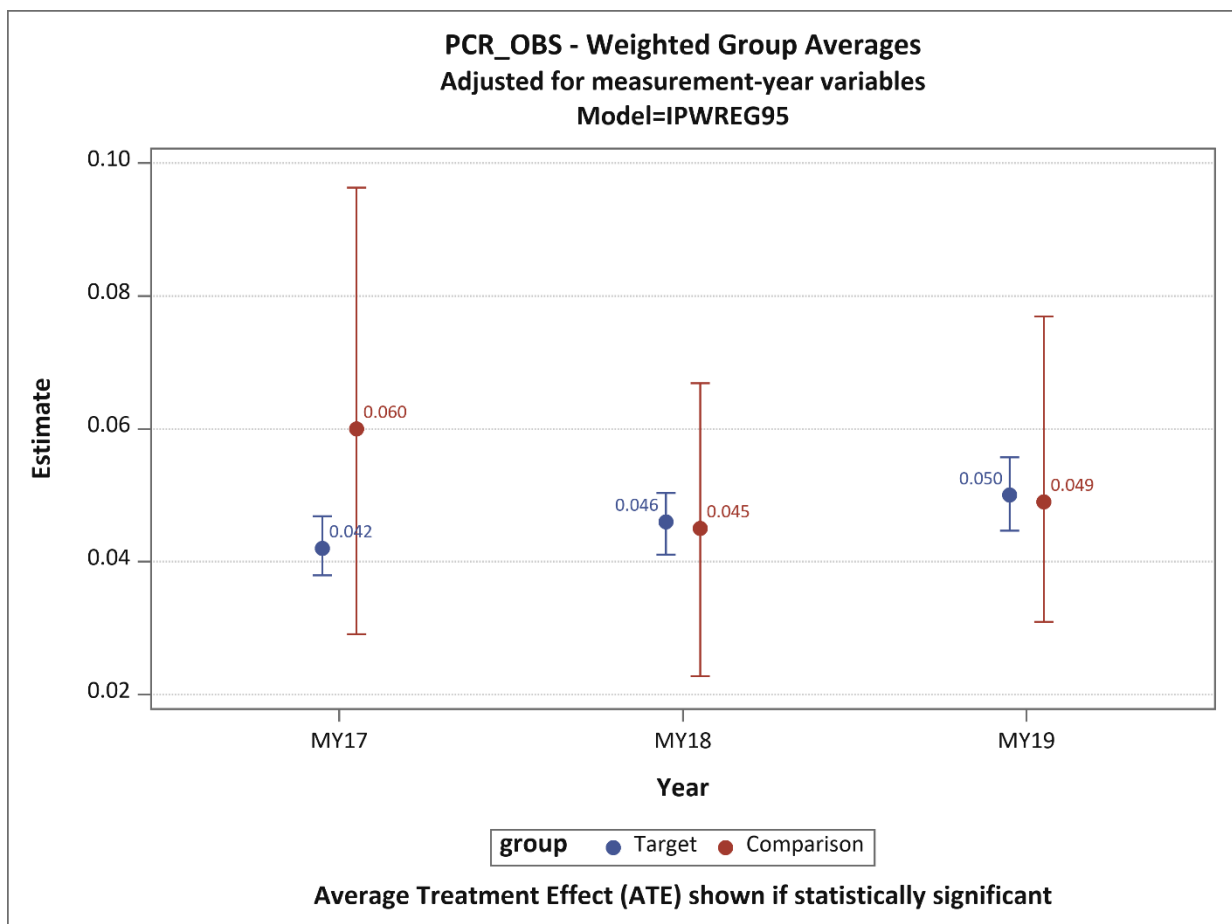


Figure 27: Plan All-Cause Readmissions Weighted Group Averages

*Principal finding:* The rate of unplanned readmissions did not differ between the target and comparison groups.

### 6.3.b.3.a Diabetes Short-Term Complications Admission Rate

The rate of inpatient hospital admissions for short-term complications of diabetes in clients age 18 and up was not significantly different between the target and comparison groups. After adjusting for group selection, confounders, and measurement-year effects, target group admissions ranged from 11.4 (9.3, 14.1 CI) to 18.3 (14.7, 22.8 CI) per 100,000 client months and comparison group admissions ranged from 13.9 (7.1, 25.7 CI) to 18.5 (11.2, 28.1 CI) per 100,000 client months.

Table 32: Diabetes Short-Term Complications Admission Rate Results

Measure	3.b.3.a	MY17	MY18	MY19
IPWREG	Target Sample	187,859	175,895	160,839
	Comparison Sample	36,074	38,167	38,350
	Target Rate	11.4148	14.1728	18.3300
	Comparison Rate	17.9436	13.8748	18.4889
	Rate Difference	-6.5288	0.2981	-0.1589
	P Value	0.4523	0.9502	0.9733
Propensity scores trimmed at the:			5th–95th percentiles	

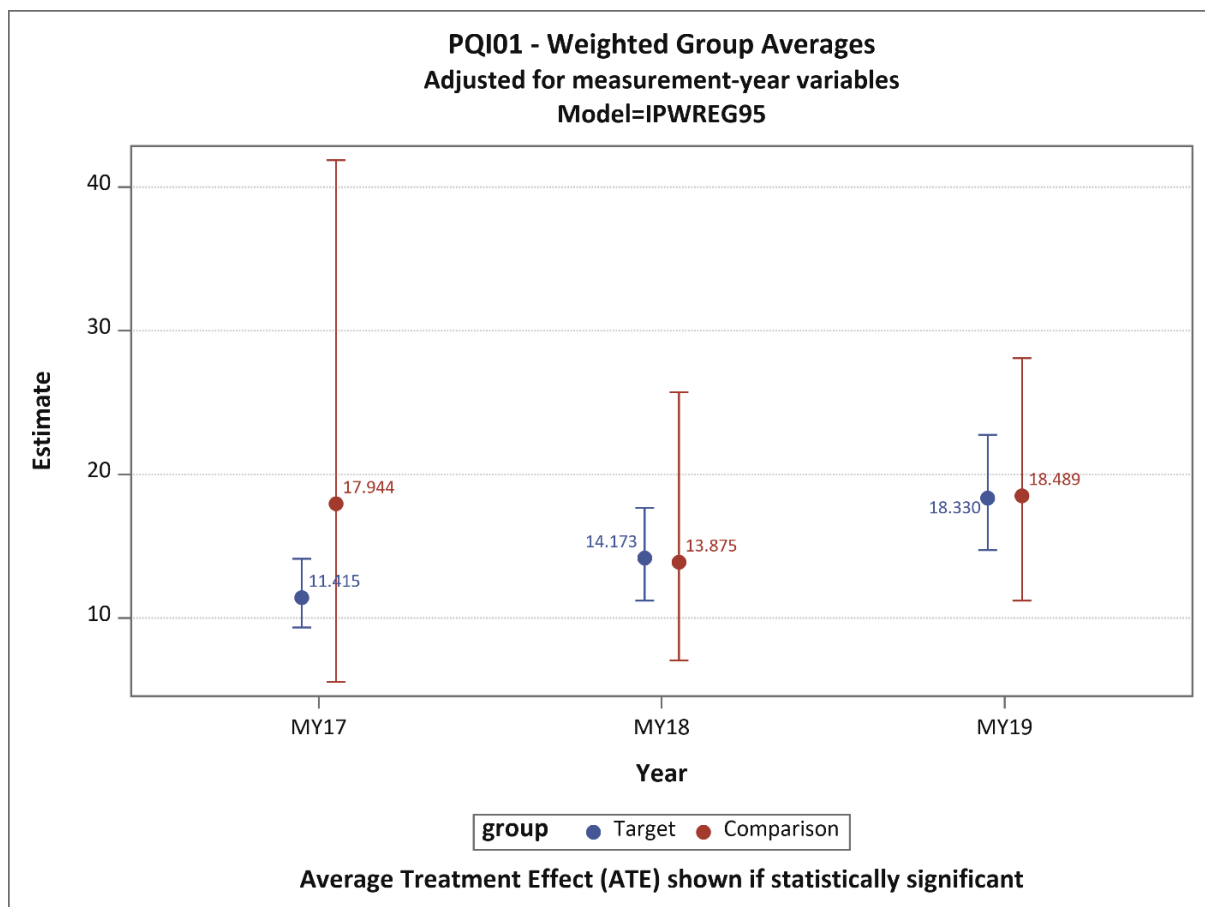


Figure 28: Diabetes Short-Term Complications Admission Rate Weighted Group Averages

**Principal finding:** The rate of admissions for short-term diabetes complications did not differ between the target and comparison groups.



### 6.3.b.3.b Chronic Obstructive Pulmonary Disease or Asthma in Older Adults Admission Rate

In clients aged 40 or older, the rates of inpatient hospital admissions for COPD ranged from about 13 per 100,000 client months to about 35 per 100,000 client months from MY17 to MY19. The rates did not significantly differ between the target and comparison groups after adjustment for group selection. Because the MY17 and MY19 IPWREG models additionally adjusting for measurement-year effects had convergence issues, results from the IPWS models weighted to adjust for selection bias are shown below.

Table 33: Chronic Obstructive Pulmonary Disease or Asthma in Older Adults Admission Rate Results

Measure	3.b.3.b	MY17	MY18	MY19
IPWS	Target Sample	40,330	40,020	38,113
	Comparison Sample	6,034	6,953	6,944
	Target Rate	13.3421	15.9217	15.6258
	Comparison Rate	34.5156	16.9055	26.1238
	Rate Difference	-21.1735	-0.9838	-10.4980
	P Value	0.1056	0.8644	0.1799
Propensity scores trimmed at the:			5th–95th percentiles	

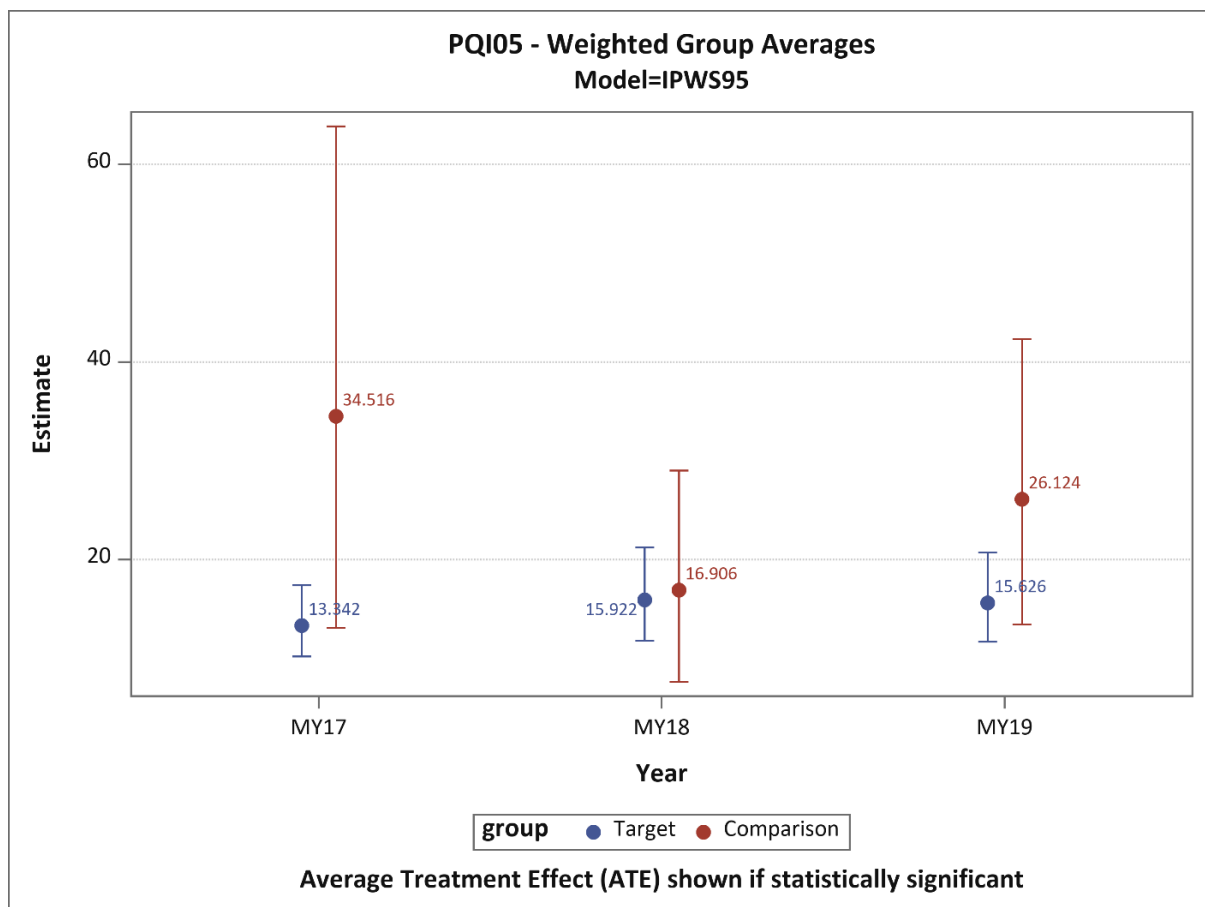


Figure 29: Chronic Obstructive Pulmonary Disease or Asthma in Older Adults Admission Rate Weighted Group Averages

**Principal finding:** The rate of admissions for COPD or asthma in older adults did not differ between the target and comparison groups.

### 6.3.b.3.c Heart Failure Admission Rate

In clients age 18 or older, the rate of inpatient admissions for heart failure was significantly higher for the target group in MY18, with the target group having 7.4 (5.91, 9.22 CI) admissions per 100,000 client months vs. 3.3 (0.52, 7.23 CI) admissions per 100,000 client months in the comparison group, after adjusting for group selection, confounders, and measurement-year effects. The groups did not significantly differ in heart failure admission rate in MY17 or MY19.

Table 34: Heart Failure Admission Rate Results

Measure	3.b.3.c	MY17	MY18	MY19
IPWREG	Target Sample	187,859	175,895	160,839
	Comparison Sample	36,074	38,167	38,350
	Target Rate	6.0870	7.4015	10.8341
	Comparison Rate	4.9541	3.2645	18.1705
	Rate Difference	1.1328	4.1370	-7.3365
	P Value	0.6160	0.0314	0.3703
Propensity scores trimmed at the:			5th–95th percentiles	

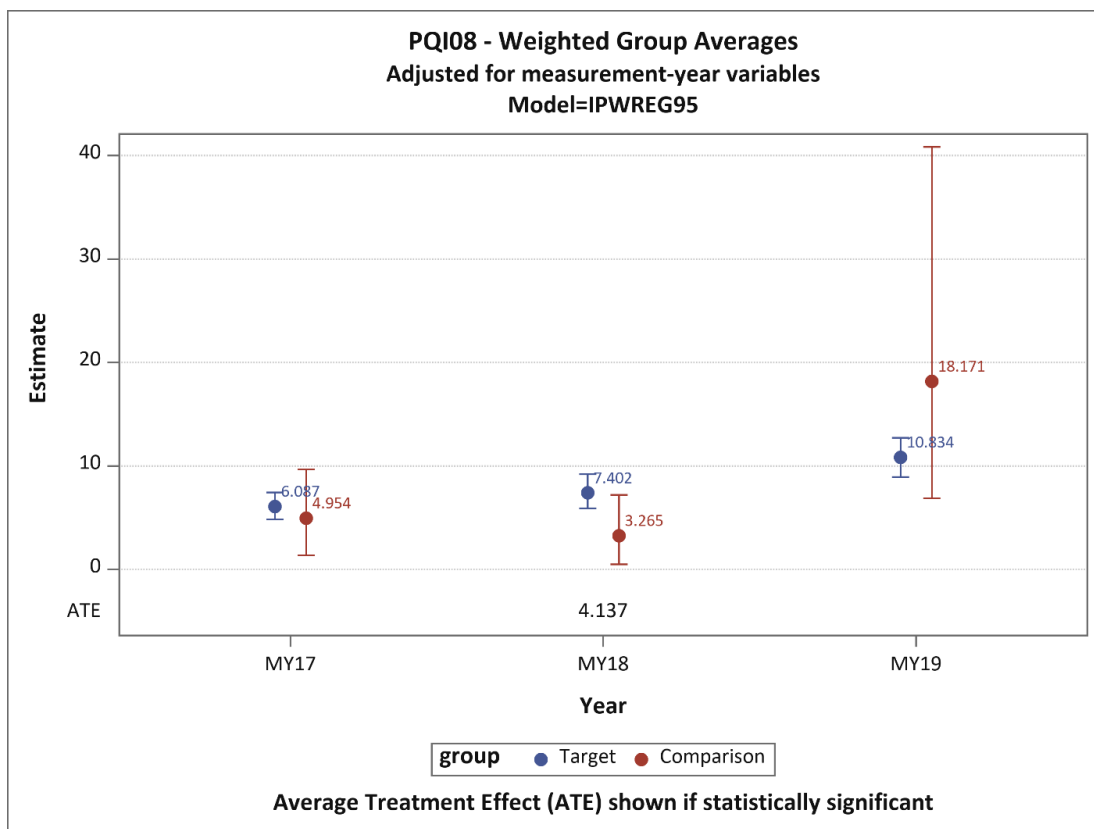


Figure 30: Heart Failure Admission Rate Weighted Group Averages

*Principal finding:* The target group had higher rates of admissions for heart failure in MY18.

### 6.3.b.3.d Asthma in Younger Adults Admission Rate

In adults ages 18 to 39, the number of inpatient admissions for asthma per 100,000 client months ranged from 3.06 (1.14, 6.02 CI) to 5.29 (2.85, 9.69 CI), after adjustment for group selection, confounders, and measurement-year effects. This admission rate did not differ significantly between the target and comparison group in any measurement year.

Table 35: Asthma in Younger Adults Admission Rate Results

Measure	3.b.3.d	MY17	MY18	MY19
IPWREG	Target Sample	114,369	104,520	92,887
	Comparison Sample	30,042	31,435	31,651
	Target Rate	3.9119	4.3225	3.8256
	Comparison Rate	3.0555	3.8754	5.2936
	Rate Difference	0.8564	0.4471	-1.4679
	P Value	0.5519	0.8085	0.4542
Propensity scores trimmed at the:			5th–95th percentiles	

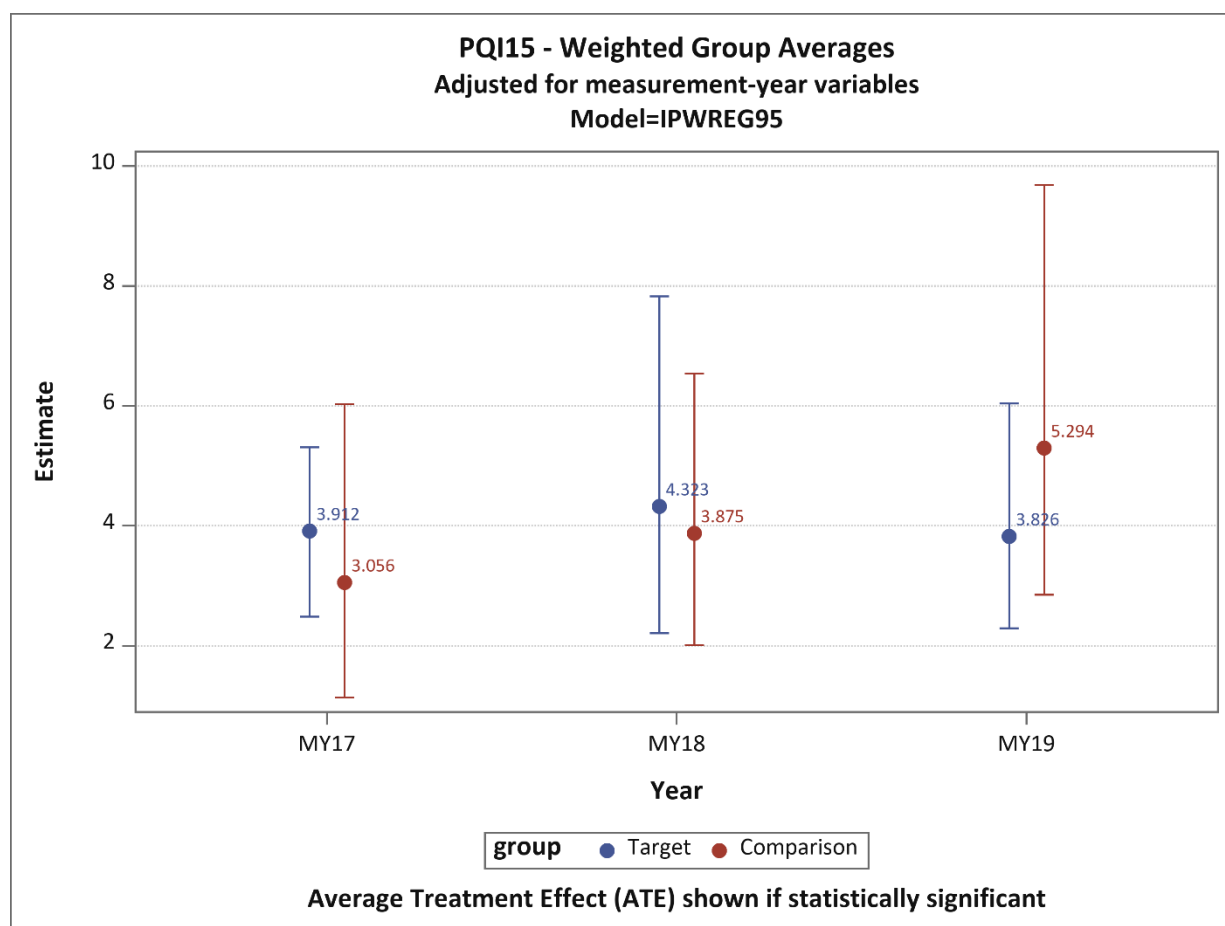


Figure 31: Asthma in Younger Adults Admission Rate Weighted Group Averages

*Principal finding:* The rate of admissions for asthma in younger adults did not differ between the target and comparison groups.

### 6.3.c.1.a Follow-Up After Hospitalization for Mental Illness – 7 Days

In acute inpatient discharges for selected mental illness or intentional self-harm, the percentage followed by a visit with a mental health practitioner within 7 days did not significantly differ between the target and comparison groups from MY17 to MY19. After adjustment for group selection, confounders, and measurement-year effects, follow-up rates in the target group ranged from 17.6% (16.2, 19.2 CI) to 21.1% (19.4, 23.0 CI), vs. comparison group rates from 14.8 (9.0, 22.2 CI) to 21.6 (14.6, 30.3 CI) during the same period.

Table 36: Follow-Up After Hospitalization for Mental Illness after 7 Days Results

Measure	3.c.1.a	MY17	MY18	MY19
IPWREG	Target Sample	2,187	2,043	2,094
	Comparison Sample	322	395	393
	Target Rate	0.1759	0.2110	0.1956
	Comparison Rate	0.1484	0.2158	0.1902
	Rate Difference	0.0275	-0.0048	0.0054
	P Value	0.3967	0.8992	0.8861
Propensity scores trimmed at the:			1st–99th percentiles	

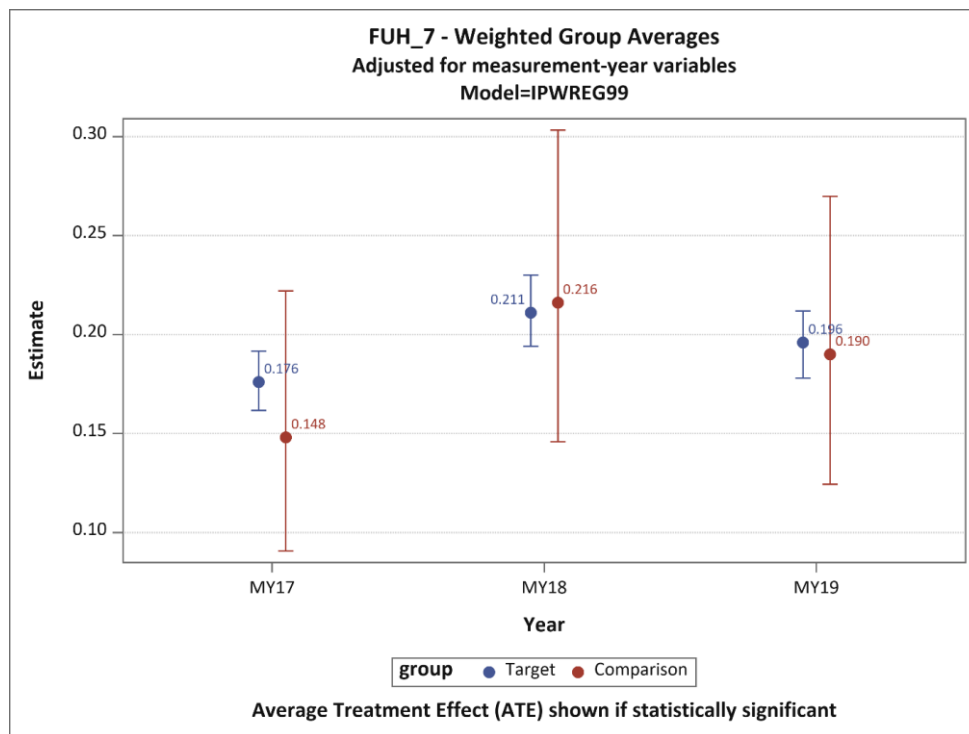


Figure 32: Follow-Up After Hospitalization for Mental Illness after 7 Days Weighted Group Averages

**Principal finding:** The rates of follow-up visits within 7 days after a hospitalization for mental illness did not differ between the two groups.

### 6.3.c.1.b Follow-Up After Hospitalization for Mental Illness – 30 Days

In acute inpatient discharges for selected mental illness or intentional self-harm, the percentage followed by a visit with a mental health practitioner within 30 days did not significantly differ between the target and comparison groups from MY17 to MY19. After adjustment for group selection, confounders, and measurement-year effects, follow-up rates in the target group ranged from 36.9% (35.1, 39.1 CI) to 41.2% (39.6, 46.9 CI), vs. comparison group rates from 38.3 (30.0, 46.4 CI) to 42.5 (34.3, 50.0 CI) during the same period.

Table 37: Follow-Up After Hospitalization for Mental Illness after 30 Days Results

Measure	3.c.1.b	MY17	MY18	MY19
IPWREG	Target Sample	2,187	2,043	2,094
	Comparison Sample	322	395	393
	Target Rate	0.3690	0.3900	0.4182
	Comparison Rate	0.3828	0.3857	0.4252
	Rate Difference	-0.0138	0.0042	-0.0071
	P Value	0.7458	0.9303	0.8665
Propensity scores trimmed at the:			1st–99th percentiles	

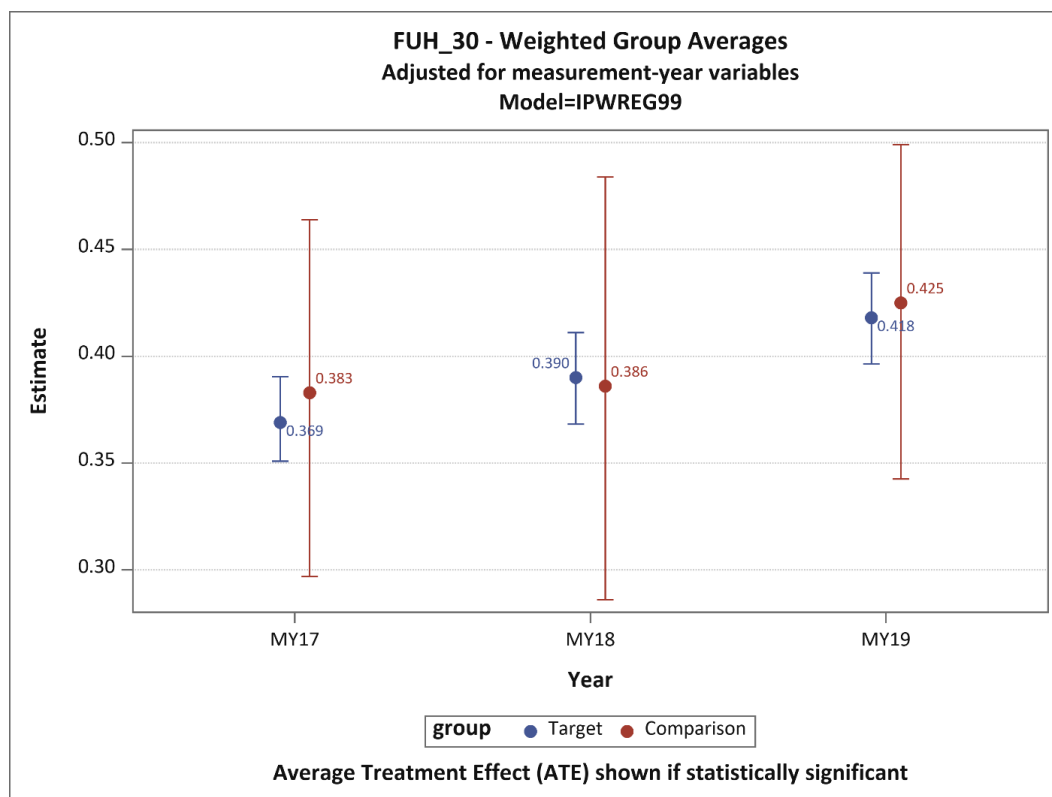


Figure 33: Follow-Up After Hospitalization for Mental Illness after 30 Days Weighted Group Averages

**Principal finding:** The rates of follow-up visits within 30 days after a hospitalization for mental illness did not differ between the 2 groups.

### 6.3.c.2 Adherence to Antipsychotic Medications for Individuals with Schizophrenia

Arkansas Works clients with schizophrenia or schizoaffective disorder were significantly more likely to have remained on an antipsychotic medication for at least 80% of their treatment period during MY17. In MY17, 39.8% (34.8, 43.9 CI) of target-group clients remained on an antipsychotic medication vs. 23.1% (6.5, 41.6 CI) of comparison-group clients. Although the difference due to the Arkansas Works demonstration was significant in MY17 (16.7 percentage points,  $p = 0.0385$ ), it was not statistically significant in either MY18 or MY19. Year-to-year variability in results could be partly due to the relatively small number of clients eligible for this measure.

Table 38: Adherence to Antipsychotic Medications for Individuals with Schizophrenia Results

Measure	3.c.2	MY17	MY18	MY19
IPWREG	Target Sample	432	351	511
	Comparison Sample	66	78	65
	Target Rate	0.3976	0.3837	0.3795
	Comparison Rate	0.2311	0.3675	0.2836
	Rate Difference	0.1665	0.0162	0.0959
	P Value	0.0385	0.7970	0.1714
Propensity scores trimmed at the:			1st–99th percentiles	

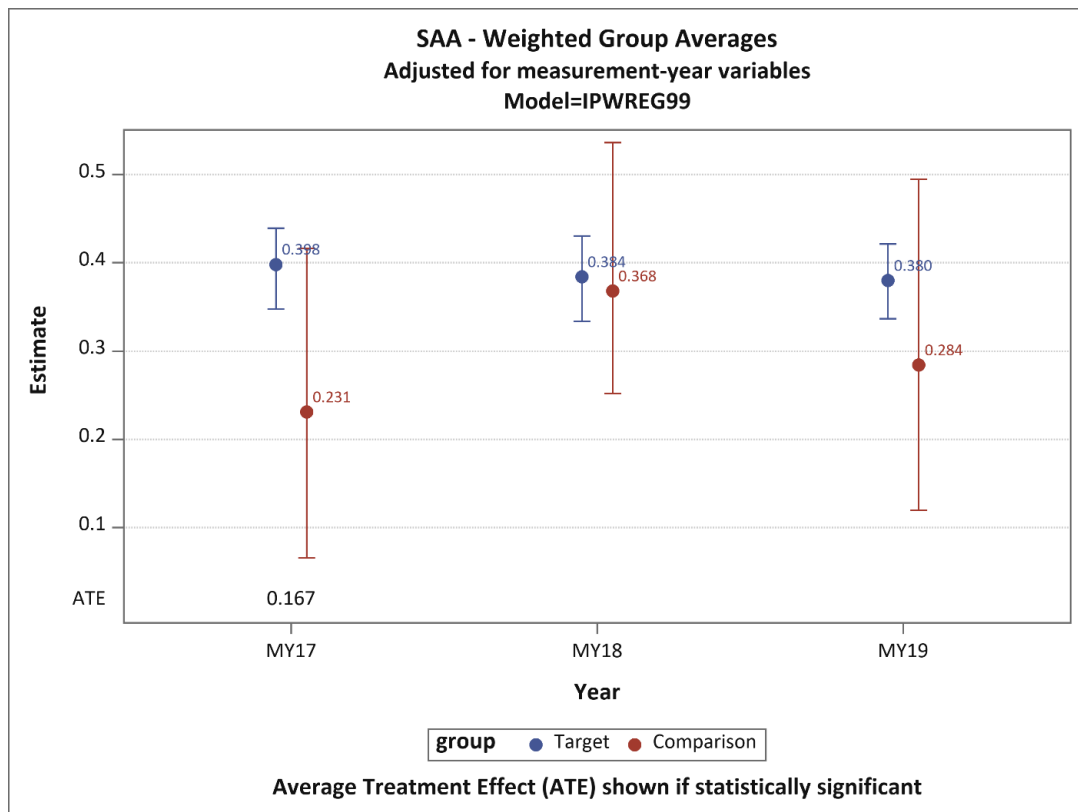


Figure 34: Adherence to Antipsychotic Medications for Individuals with Schizophrenia Weighted Group Averages

*Principal finding:* Arkansas Works clients were more likely to have remained on an antipsychotic in MY17.

### 6.3.c.3 Persistence of Beta-Blocker Treatment After a Heart Attack

The percentage of clients who received persistent beta-blocker treatment for six months after a heart attack did not differ significantly between the target and comparison groups. However, few clients were eligible for the measure denominator; that is, were hospitalized for an acute myocardial infarction from July 1 of the year prior to the measurement year to June 30 of the measurement year.

Propensity score models did not achieve balance on the baseline characteristics of clients in the target and comparison groups. Therefore, logistic regression (REGADJ) was used to adjust for baseline covariates of age, gender, rural zip code, percent minority population in the zip code tabulation area, and interactions of age with gender, rural, and minority. Due to small sample sizes and/or lack of variation in the control group, additional baseline characteristics and post-treatment variables could not be controlled for.

Table 39: Persistence of Beta-Blocker Treatment After a Heart Attack Results

Measure	3.c.3	MY17	MY18	MY19
REGADJ	Target Sample	140	128	169
	Comparison Sample	16	15	21
	Target Rate	0.3332	0.3974	0.4341
	Comparison Rate	0.2500	0.2777	0.2930
	Rate Difference	0.0832	0.1197	0.1411
	P Value	0.1255	0.7155	0.9236

*Principal finding:* Rates of persistent beta-blocker treatment after heart attack did not differ between Arkansas Works and Medicaid FFS clients in all MY.

### 6.3.c.4.a Annual Monitoring for Patients on Persistent Medications – Angiotensin Converting Enzyme (ACE) Inhibitors or Angiotensin Receptor Blockers (ARB)

Among clients who received at least 180 days of ambulatory medication therapy for an ACE inhibitor or ARB, the percentage of those who also received at least 1 therapeutic monitoring event in the measurement year was significantly higher in the target group in MY17 (82% vs. 66%,  $p < .0001$ ). The groups did not differ in MY18 or MY19, with measure rates ranging from approximately 81% to 85% after adjustment for group selection, confounders, and measurement-year effects.

Table 40: Annual Monitoring for Patients on Persistent Medications – ACE/ARB Results

Measure	3.c.4.a	MY17	MY18	MY19
IPWREG	Target Sample	2,776	3,424	4,115
	Comparison Sample	318	469	555
	Target Rate	0.8236	0.8378	0.8473
	Comparison Rate	0.6638	0.8094	0.8089
	Rate Difference	0.1598	0.0284	0.0384
	P Value	<.0001	0.3434	0.2481
Propensity scores trimmed at the:			5th–95th percentiles	

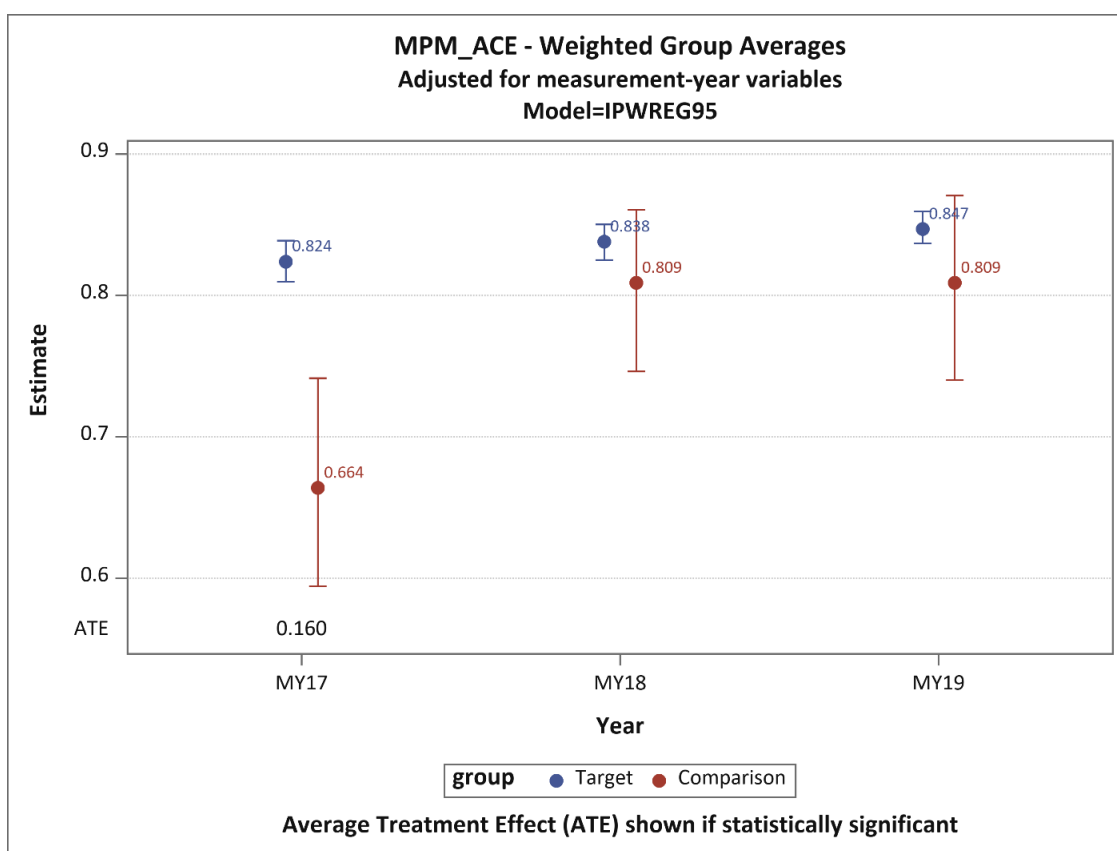


Figure 35: Annual Monitoring for Patients on Persistent Medications – ACE/ARB Weighted Group Averages

**Principal finding:** The rate of Arkansas Works clients who received a therapeutic monitoring event was higher in MY17 for clients on ACE inhibitors or ARBs.



#### 6.3.c.4.b Annual Monitoring for Patients on Persistent Medications – Diuretics

Among clients who received at least 180 days of ambulatory medication therapy for a diuretic, the percentage of those who also received at least 1 therapeutic monitoring event in the measurement year was significantly higher in the target group in MY18 (84% vs. 75%,  $p = 0.0218$ ). The groups did not differ significantly in MY17 or MY19, with measure rates ranging from approximately 75% to 84% after adjustment for group selection, confounders, and measurement-year effects.

Table 41: Annual Monitoring for Patients on Persistent Medications – Diuretics Results

Measure	3.c.4.b	MY17	MY18	MY19
IPWREG	Target Sample	2,474	3,091	3,335
	Comparison Sample	296	493	479
	Target Rate	0.8227	0.8369	0.8338
	Comparison Rate	0.7503	0.7532	0.7784
	Rate Difference	0.0724	0.0837	0.0555
	P Value	0.0795	0.0218	0.1485
Propensity scores trimmed at the:			5th–95th percentiles	

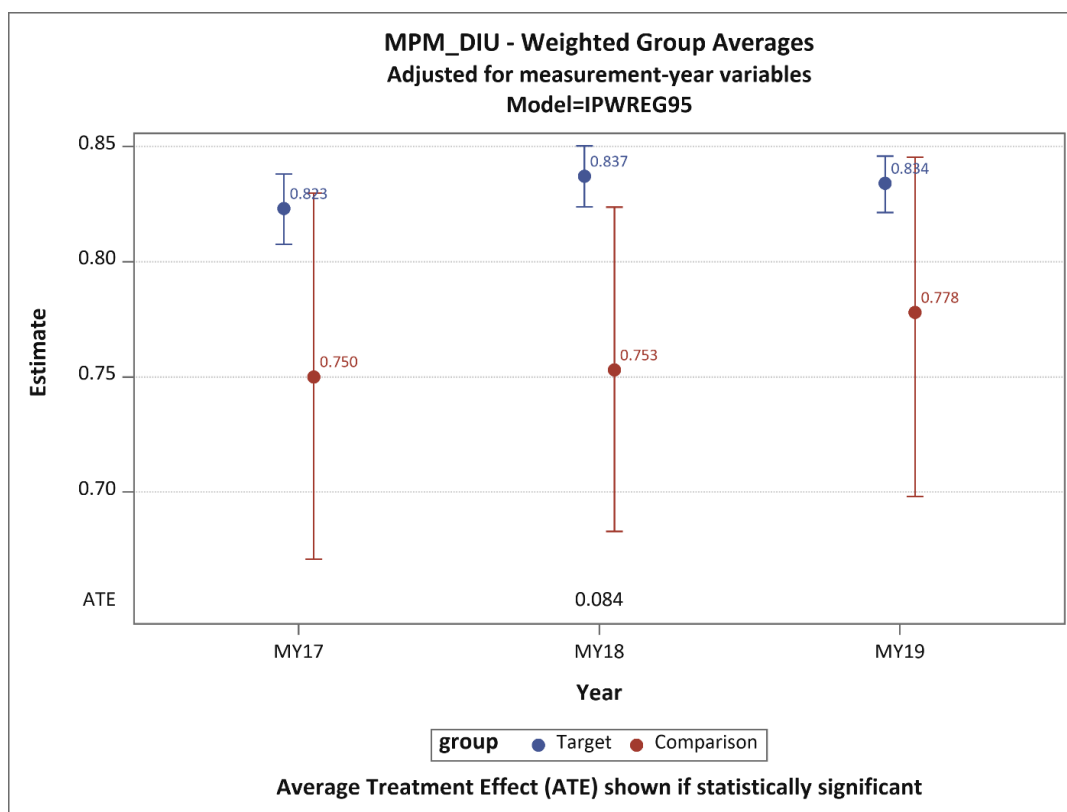


Figure 36: Annual Monitoring for Patients on Persistent Medications – Diuretics Weighted Group Averages

**Principal finding:** The rate of Arkansas Works clients who received a therapeutic monitoring event was higher in MY18 for clients on diuretics.

#### 6.3.c.4.c Annual Monitoring for Patients on Persistent Medications – Total

Among clients who received at least 180 days of ambulatory medication therapy for an ACE inhibitor, ARB, or diuretic, the percentage of those who also received at least 1 therapeutic monitoring event in the measurement year was significantly higher in the target group in MY17 (82% vs. 73%,  $p = 0.0053$ ). The groups did not differ significantly in MY18 or MY19, with measure rates ranging from approximately 79% to 84% after adjustment for group selection, confounders, and measurement-year effects.

Table 42: Annual Monitoring for Patients on Persistent Medications – Total Results

Measure	3.c.4.c	MY17	MY18	MY19
IPWREG	Target Sample	4,033	5,057	5,864
	Comparison Sample	488	758	829
	Target Rate	0.8216	0.8379	0.8404
	Comparison Rate	0.7291	0.7929	0.8156
	Rate Difference	0.0926	0.0450	0.0248
	P Value	0.0053	0.1238	0.3827
Propensity scores trimmed at the:			5th–95th percentiles	

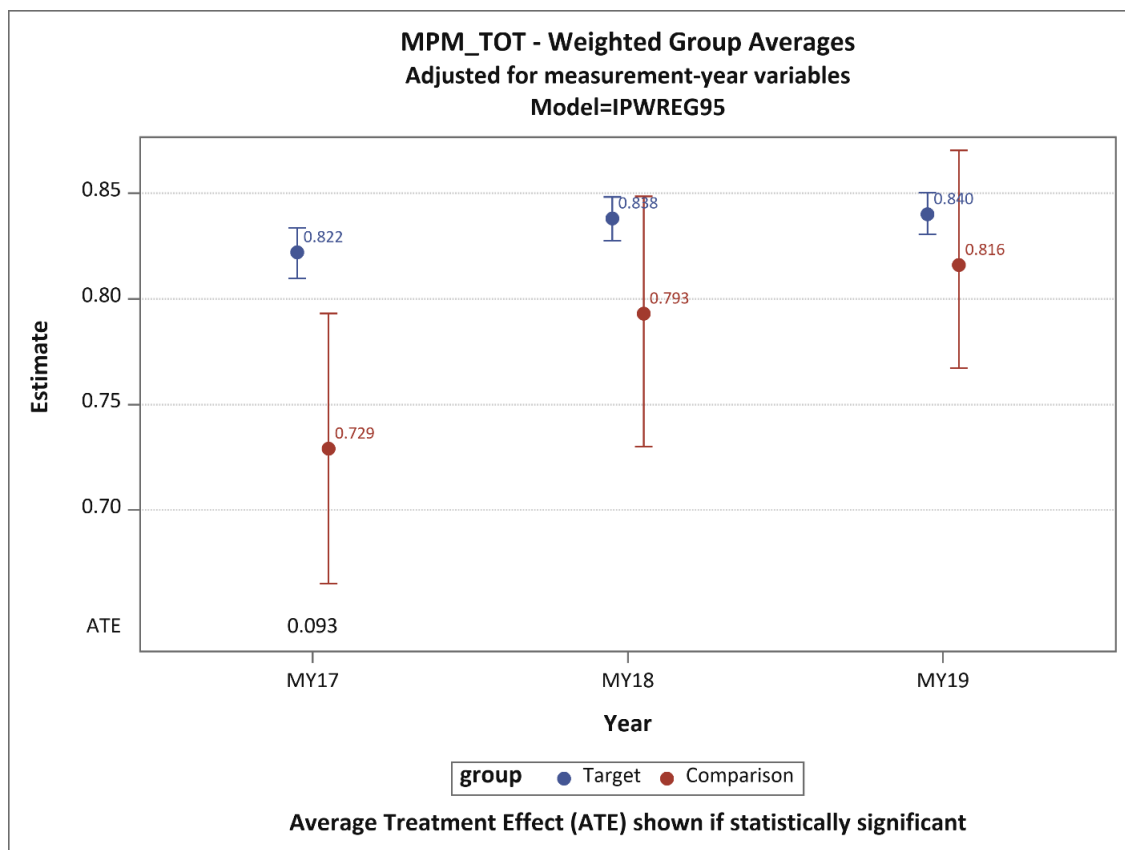


Figure 37: Annual Monitoring for Patients on Persistent Medications – Total Weighted Group Averages

*Principal finding:* The rate of Arkansas Works clients who received a therapeutic monitoring event was higher in MY17 for clients on ACE inhibitors or ARBs, or diuretics.

### 6.3.c.5 Annual HIV/AIDS Viral Load Test

The rates of receiving an HIV viral load test in a given measurement year were approximately 66–69% in the target group and 43–61% in the comparison group. The target group had significantly higher rates in MY17 and MY18, with percentage-point increases in those years of 26% and 18%, respectively.

Due to small sample sizes, propensity score models did not achieve balance on either age, minority, or the interaction of age with minority across the target and comparison groups. Therefore, logistic regression models (REGADJ) were performed on measure outcomes, adjusting for the baseline covariates of age, race/ethnicity, rural zip code, percent minority population in the zip code tabulation area, and interactions of age with race/ethnicity, rural, and minority. Due to small sample sizes and/or lack of variation in the control group, additional baseline characteristics and post-treatment variables could not be accounted for.

Table 43: Annual HIV/AIDS Viral Load Test Results

Measure	3.c.5	MY17	MY18	MY19
REGADJ	Target Sample	762	684	595
	Comparison Sample	58	55	71
	Target Rate	0.6876	0.6596	0.6878
	Comparison Rate	0.4305	0.4824	0.6124
	Rate Difference	0.2571	0.1772	0.0754
	P Value	<.0001	0.0208	0.1066

*Principal finding:* The rate of receiving an annual HIV viral load test was higher for Arkansas Works clients in MY17 and MY18.

### 6.3.c.6 C-Section Rate

The percentage of single live births delivered via Cesarean section did not differ significantly between clients in the target and comparison groups from MY17 to MY19. Of note, the comparison group for this metric includes clients who were in either the Medicaid comparison or pregnancy groups during the measurement year. The C-section rate ranged from 28% to 30% during the evaluation period after adjustment for group selection, confounders, and measurement-year effects.

Table 44: C-Section Rate Results

Measure	3.c.6	MY17	MY18	MY19
IPWREG	Target Sample	3,770	3,031	2,774
	Comparison Sample	8,028	8,705	9,182
	Target Rate	0.2925	0.3092	0.2810
	Comparison Rate	0.2927	0.2970	0.3031
	Rate Difference	-0.0002	0.0122	-0.0221
	P Value	0.9823	0.3242	0.0701
Propensity scores trimmed at the:			1st–99th percentiles	

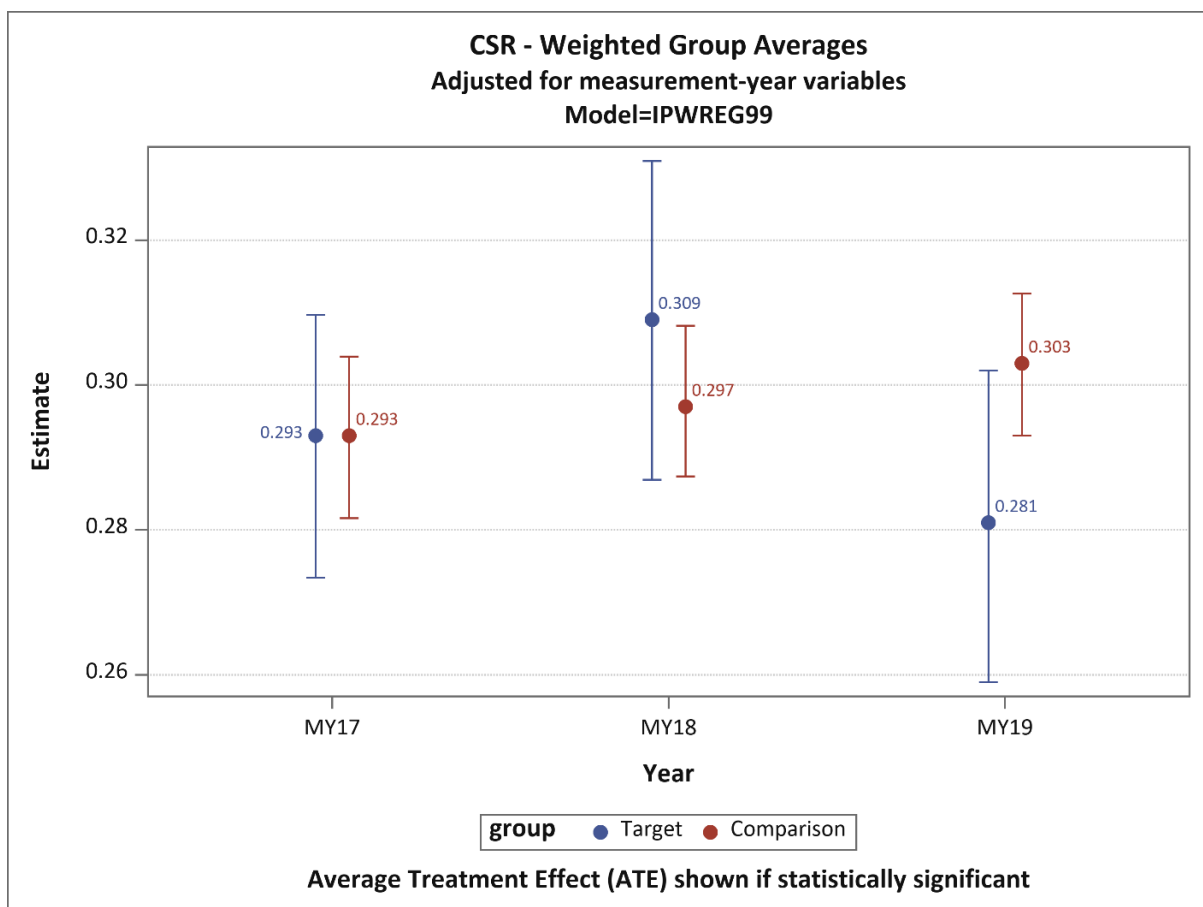


Figure 38: C-Section Rate Weighted Group Averages

*Principal finding:* C-section rates did not differ between the two groups in any measurement year.

## 6.4 COST EFFECTIVE CARE RESULTS

### 6.4.a.a Arkansas Statewide and Regional Program Characteristics

Arkansas Works extends healthcare eligibility for certain individuals between 19 and 64 years of age with income levels at or below 138% of the Federal Poverty Level (FPL) and clients are enrolled in QHPs offered via the Health Insurance Marketplace with premium assistance paid for by the state's Medicaid program. Arkansas was an early adopter of the reforms included in the ACA that expanded coverage and enrollment options for both Medicaid and commercial health plan clients. The Arkansas Works demonstration utilizes the commercial QHPs offered on the health insurance marketplace as the foundation for the demonstration.

Table 45: Arkansas Statewide and Regional Program Characteristics Results

Measure 4.a.1	Arkansas Program Characteristics. Arkansas-specific health insurance exchange program characteristics: number of plans, actuarial risk, average second lowest cost silver premium (SLCSP)			
Measure 4.a.2	Arkansas Regional Average Program Characteristics. Arkansas-specific health insurance exchange program characteristics: number of plans, actuarial risk, average second lowest cost silver premium (SLCSP) by Arkansas region			
		2017	2018	2019
Number of Plans (4.a.1)	Total Number of Plans Offered	176	179	174
Actuarial Risk (4.a.1)	Number of Gold, Silver, Expanded Bronze, Bronze, Catastrophic	40, 80, n/a, 42, 14	20, 111, 7, 28, 7	33, 106, 14, 14, 7
SLCSP (4.a.1)	Statewide Average	\$281	\$364	\$378
SLCSP by Region (4.a.2)	Service Area 1	\$314	\$378	\$379
	Service Area 2	\$292	\$352	\$379
	Service Area 3	\$297	\$357	\$377
	Service Area 4	\$292	\$351	\$379
	Service Area 5	\$307	\$371	\$379
	Service Area 6	\$317	\$382	\$340
	Service Area 7	\$283	\$340	\$379

Note: SLCSP is based on 40-year-old nonsmoker.

Arkansas Works clients are enrolled typically in silver level QHPs, with premium assistance and cost support from Medicaid. The actuarial values (AV) for QHPs are fixed by the ACA and the Final Actuarial Calculator Methodology released annually by CMS. The AV did not vary for Arkansas Works clients, and the same plan richness was available for all QHP clients. All plans offered on the Arkansas marketplace must be within the allowable AV ranges in order to be certified by the Arkansas Department of Insurance as a QHP.

Section 1302(d)(2)(A) of the ACA outlined that marketplace health plans must be grouped into four tiers: (1) bronze, with an AV of 60%; (2) silver, with an AV of 70%; (3) gold, with an AV of 80%; and (4) platinum, with an AV of 90%, with a deviation of + or – of no more than 2%. More recently, CMS added an “enhanced” bronze plan that allows for a bronze plan that “either covers and pays for at least one major service, other than preventive services, before the deductible, or

meets the requirements to be a high deductible health plan within the meaning of 26 U.S.C. 223(c)(2), may have an allowable variation in AV for such plans of -4 percentage points and +5 percentage points.”<sup>26</sup>

Arkansas has had a relatively steady commercial marketplace, with the number of health insurers offering QHPs and the health insurance companies participating remaining consistent across the years 2014–2019; Arkansas Blue Cross Blue Shield, Ambetter/Centene, and QualChoice. One indication that the market suffered as a result of the Arkansas Works demonstration would have been companies leaving the marketplace due to the potential uncertainty or the unknown risk profile of the Arkansas Works eligible clients. This did not happen in Arkansas.

*Table 46: Issuers Operating in Arkansas (2014–2019)*

Year	2014	2015	2016	2017	2018	2019
<b>Number of Issuers</b>	3	3	4	3	3	3

Table 47, enrollment in the Arkansas QHPs indicate a fairly material decline in enrollment. Rising premiums costs across the country during this time frame of 2017–2019 are the likely cause of this enrollment decline, not the Arkansas Works waiver demonstration.<sup>27</sup> For example, from 2017–2018 the national average silver plan premium increased by 17.2% from \$714 to \$831.

*Table 47: QHP Enrollment in Arkansas (2017–2019)*

Year	2017	2018	2019
<b>Clients</b>	222,282	205,144	183,425

*Principal finding:* The Arkansas Works demonstration did not affect the number of issuers offering QHPs, and statewide average premium increases occurred during the demonstration period, but not directly tied to Arkansas Works demonstration.

#### **6.4.a.b Arkansas Contiguous State Program Characteristics**

To gain insights into the impact the Arkansas Works demonstration has had on the individual Marketplace inside the state, the IE conducted a high-level analysis of the states bordering Arkansas. The IE compared certain aspects of their QHPs, primarily using each States Silver Tier Metal plan as a basis of comparison. Arkansas Works utilizes the individual market QHPs as the basis of the demonstration and clients are enrolled in silver plans. The IE examined demographic characteristics of these contiguous states to highlight similarities and differences across the cohort and reviewed trends in enrollment and premium rate changes over the observation period. The contiguous states did not closely resemble the demographics of Arkansas, but the premium analysis does serve to support the findings that the trends in Arkansas support premiums across the waiver period were below contiguous states median.

<sup>26</sup> <https://www.cms.gov/CCIIO/Resources/Regulations-and-Guidance/Downloads/Final-2021-AV-Calculator-Methodology.pdf>

<sup>27</sup> <https://www.ncsl.org/research/health/health-insurance-premiums.aspx>

The following states were included as contiguous states. Contiguous was defined as states that share a common border with Arkansas. The demographics of the following states vary significantly.

- Tennessee
- Mississippi
- Louisiana
- Texas
- Oklahoma
- Missouri

The following data points were examined for each contiguous state.

- Total population of the state
- Number of Companies on State Health Exchange
- Proportion of Medicaid Clients to Total Population
- Proportion of Commercial Insurance Clients to Total Population
- Proportion of QHP Population to Total Population
- Average benchmark sliver plan premiums

Table 48: Contiguous States Comparison Data

4.a.3	Arkansas	Louisiana	Mississippi	Missouri	Oklahoma	Tennessee	Texas
<b>Total Population</b>	3,017,804	4,648,794	2,976,149	6,137,428	3,956,971	6,829,174	28,995,881
<b>Number of Companies on Exchange</b>	3	4	2	4	2	5	8
<b>2018 Medicaid Clients, number and % of tot pop</b>	796,600 26.4%	1,323,500 28.5%	674,000 22.6%	888,000 14.5%	673,300 17%	1,359,800 19.9%	4,724,500 16.3%
<b>2018 Commercial Insurance Clients, number and % of tot pop</b>	1,223,300 40.5%	1,918,200 41.3%	1,249,500 42%	3,101,200 50.5%	1,756,000 44.4%	3,070,000 50%	13,234,000 45.6%
<b>2018 QHP Clients, number and % of tot pop<sup>28</sup></b>	68,100 2.3%	109,855 2.4%	83,649 2.8%	243,382 4%	140,184 3.5%	228,646 3.4%	1,126,838 3.9%

Source: <https://www.kff.org/other/state-indicator/total-population/?dataView=1&currentTimeframe=1&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D>

Source for Total QHP Enrollees - [Marketplace Enrollment, 2014-2021 | KFF](#)

<sup>28</sup> Defined as “Number of Individuals Who Selected a Marketplace Plan represents the total number of people who selected or were automatically reenrolled into a Marketplace medical plan (regardless of whether the consumer paid the premium) as of the end of the open enrollment period.”

In addition, as shown in the figure below, during the observation period, benchmark plan premium levels appeared to increase at a lower rate per annum in Arkansas when compared to the contiguous states and remain consistently below the cohort median.

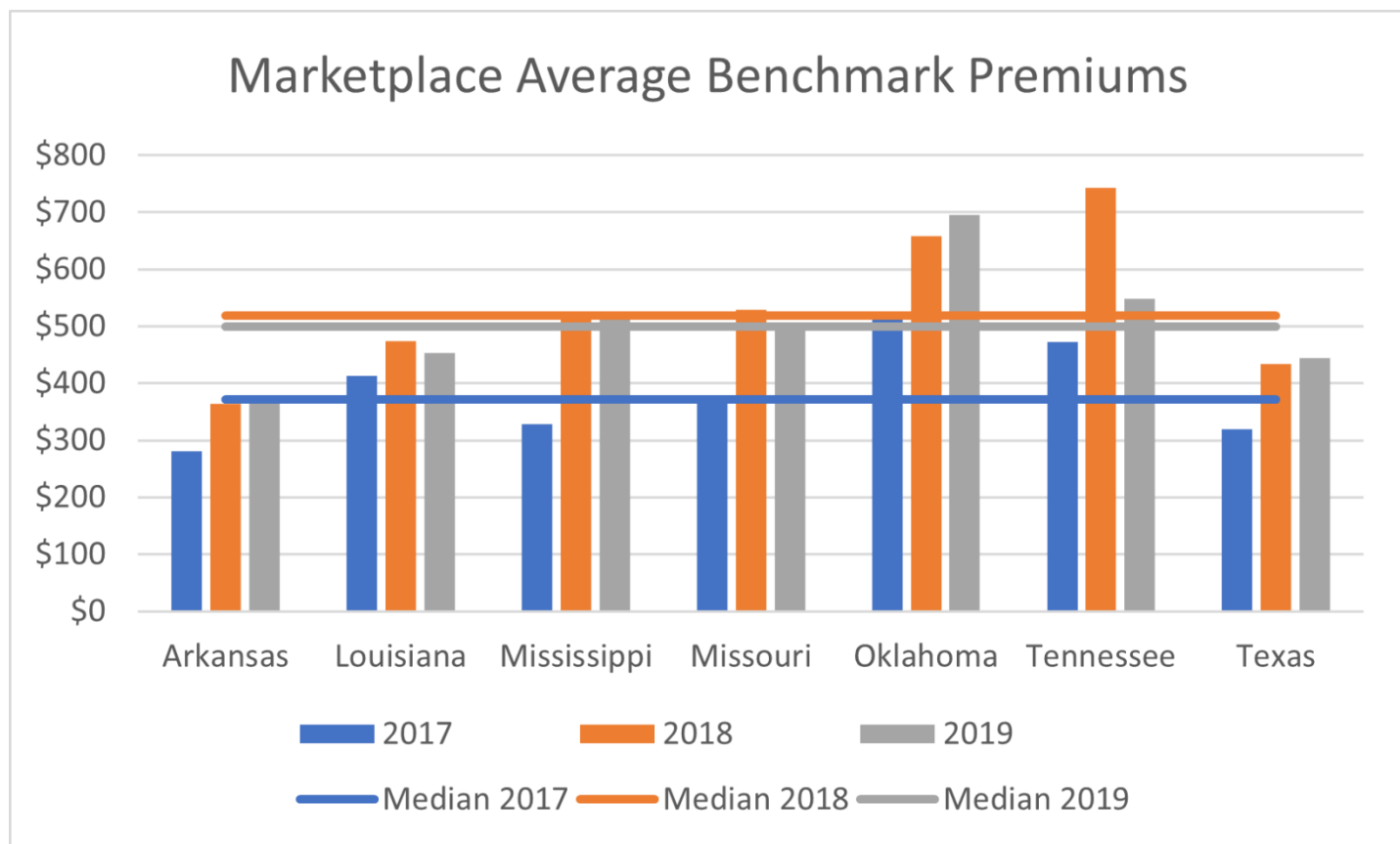


Figure 39: Marketplace Average Benchmark Premiums

Source: <https://www.kff.org/health-reform/state-indicator/marketplace-average-benchmark-premiums/>

**Principal finding:** Benchmark plan premium levels appeared to increase at a lower rate per annum in Arkansas when compared to the contiguous states and remain consistently below the cohort median.



#### 6.4.b.1 Meets Budget Neutrality

As per CMS SMD #18-009, CMS will not currently approve an 1115 demonstration project unless the project is expected to be budget neutral to the federal government so to limit their possible exposure. CMS has established a budget neutrality cap for each demonstration year which is outlined in the “Demonstration Populations Used to Calculate the Budget Neutrality Limit” section of the STCs. The table below details expenditures in relation to the established budget neutrality guidelines. Net payments were calculated as (Premium Expenditures + Advance Cost Share Payments + Wrap Costs – Premium Reconciliations) / Number of Paid Member Months.

Table 49: Budget Neutrality by Year

	2017	2018	2019
Number of Paid Premium Member Months	3,143,965	2,714,418	2,432,883
Premium Expenditures	\$1,183,532,438.81	\$1,268,351,951.50	\$1,088,706,551.53
Advance Cost Share Payments	\$447,430,159.75	\$270,651,782.11	\$397,384,530.76
Wrap Costs	\$12,774,314.78	\$9,844,810.45	\$8,665,953.71
Premium Reconciliations	\$3,447,947.13	\$2,896,400.19	\$3,162,177.16
Net Payments Per Individual with a Paid Premium	\$521.73	\$569.53	\$613.10
Budget Neutrality Cap	\$570.50	\$597.32	\$625.39
Budget Neutrality Comparison	-9%	-5%	-2%

For each year included in this evaluation, the net payments made per individual with a paid premium were lower than the budget neutrality cap. Although, these figures do not include cost settlement payments. Paid premium member months and wrap costs decreased yearly, whereas overall costs increased 9% from 2017 to 2018 and 8% from 2018 to 2019. These overall costs will need ongoing monitoring to ensure expenditures do not surpass the neutrality cap which increases an additional 4.7% per demonstration year. Arkansas implemented payment limits to QHPs beginning in 2019 which should provide positive results for the summative evaluation.

*Principal finding:* Net payments made per individual with a paid premium were lower than the budget neutrality cap.

### 6.4.b.2 Inpatient Utilization

For all inpatient utilization categories, including maternity, the denominator includes all clients multiplied by the number of months enrolled in the measurement year. Discharges for maternity inpatient stays per 1,000 client months were significantly lower in the target group over all measurement years, after adjusting for group selection, confounders, and measurement-year effects. The target group had 1.57 (-1.85, -1.31 CI) fewer maternity stays per 1,000 client months in MY17, 2.02 (-2.29, -1.74 CI) fewer maternity stays per 1,000 client months in MY18, and 2.2 (-2.56, -1.89 CI) fewer maternity stays per 1,000 client months in MY19.

Table 50: Inpatient Utilization – Maternity Results

Measure	4.b.2.a	MY17	MY18	MY19
IPWREG	Target Sample	187,859	175,895	160,839
	Comparison Sample	36,074	38,167	38,350
	Target Rate	2.2472	2.0142	2.2105
	Comparison Rate	3.8209	4.0369	4.4128
	Rate Difference	-1.5737	-2.0227	-2.2024
	P Value	<.0001	<.0001	<.0001
Propensity scores trimmed at the:			5th–95th percentiles	

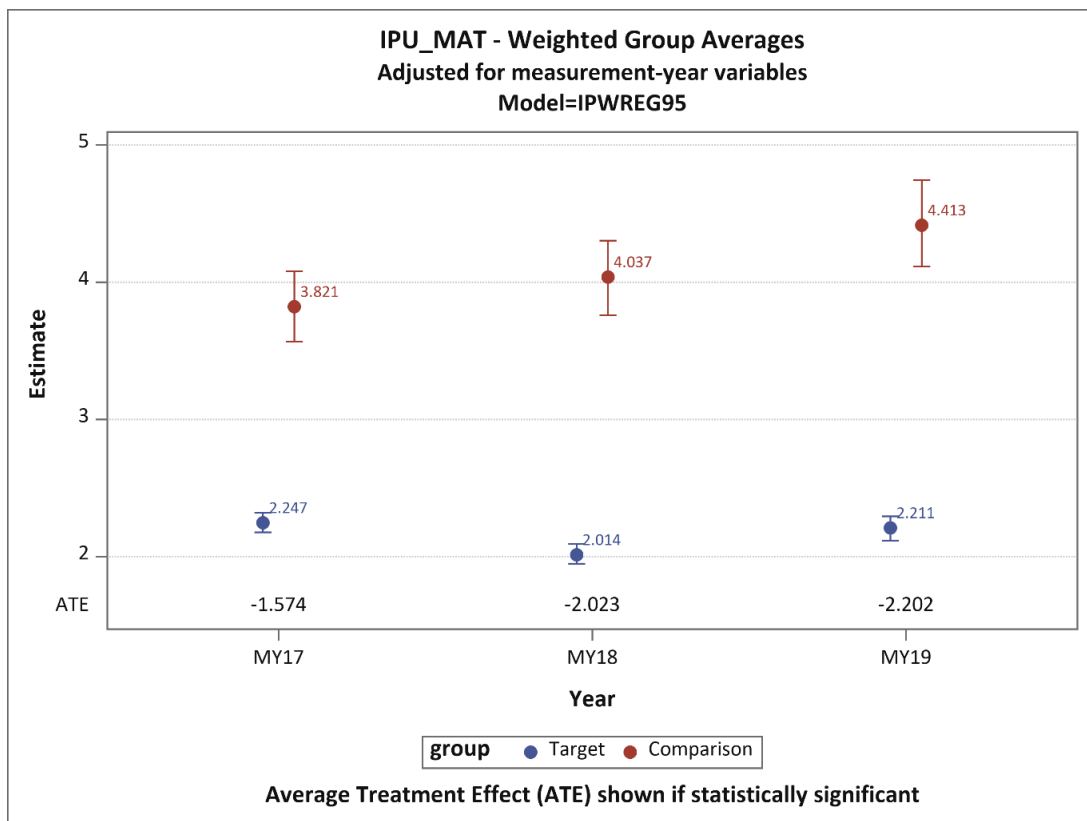


Figure 40: Inpatient Utilization – Maternity Weighted Group Averages

**Principal finding:** Arkansas Works’ maternity inpatient stay discharges per 1,000 client months were lower in all measurement years.

The rate of medical inpatient discharges was significantly higher in the target group in MY17 and MY18, but significantly lower in the target group in MY19. The target group had 0.45 (-0.023, 0.795 CI) and 0.43 (0.080, 0.773 CI) more medical inpatient discharges per 1,000 client months in MY17 and MY18, respectively, but 0.67 (-1.20, -0.205 CI) fewer medical inpatient discharges in MY19, after adjusting for group selection, confounders, and measurement-year effects.

Table 51: Inpatient Utilization – Medicine Results

Measure	4.b.2.b	MY17	MY18	MY19
IPWREG	Target Sample	187,859	175,895	160,839
	Comparison Sample	36,074	38,167	38,350
	Target Rate	3.2273	3.3180	3.6212
	Comparison Rate	2.7734	2.8893	4.2885
	Rate Difference	0.4539	0.4287	-0.6673
	P Value	0.0229	0.0127	0.0066
Propensity scores trimmed at the:			5th–95th percentiles	

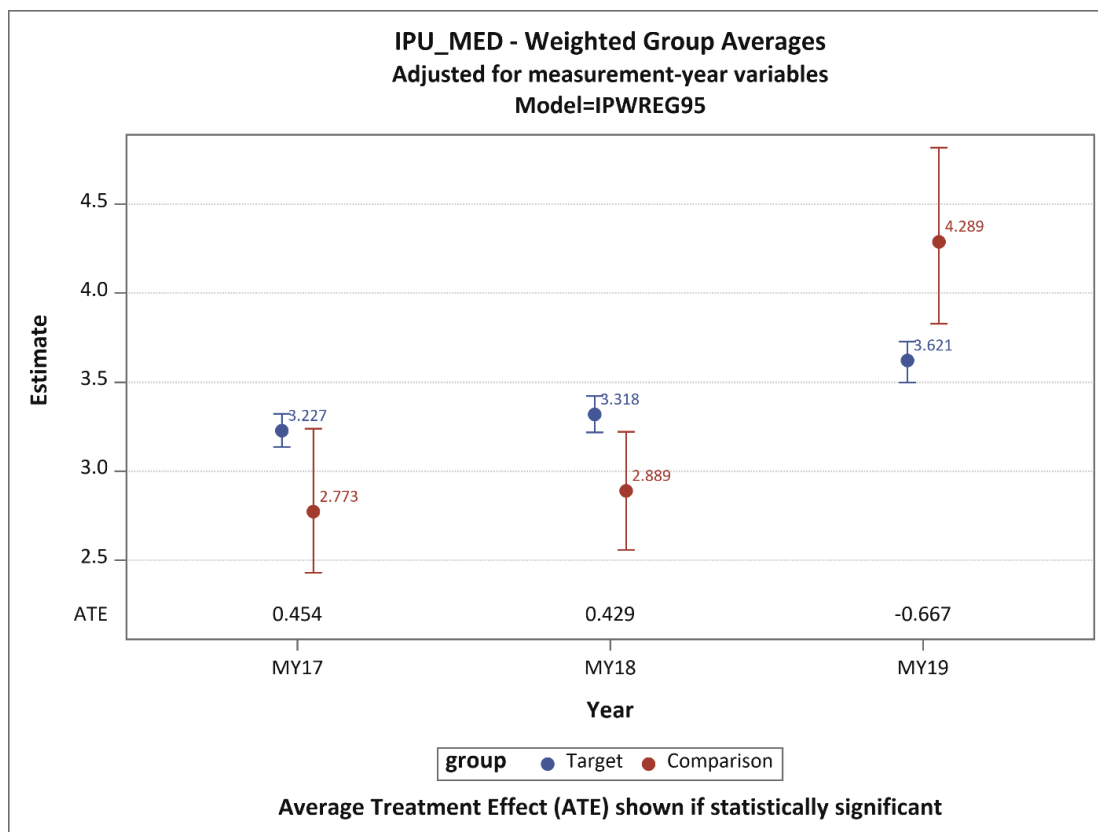


Figure 41: Inpatient Utilization – Medicine Weighted Group Averages

*Principal finding:* Arkansas Works’ medical inpatient stay discharges per 1,000 client months were higher in MY17 and MY18.

Rates of inpatient surgery discharges were significantly lower in the target group in all measurement years. The difference due to the Arkansas Works demonstration was a decrease of 1.08 (-1.36, -0.85 CI) discharges per 1,000 client months in MY17, 1.36 (-1.67, -1.06 CI) discharges per 1,000 client months in MY18, and 1.31 (-1.05, -1.06 CI) discharges per 1,000 client months in MY19.

Table 52: Inpatient Utilization – Surgery Results

Measure	4.b.2.c	MY17	MY18	MY19
IPWREG	Target Sample	187,859	175,895	160,839
	Comparison Sample	36,074	38,167	38,350
	Target Rate	0.6813	0.5532	0.8515
	Comparison Rate	1.7655	1.9146	2.1629
	Rate Difference	-1.0843	-1.3614	-1.3113
	P Value	<.0001	<.0001	<.0001
Propensity scores trimmed at the:			5th–95th percentiles	

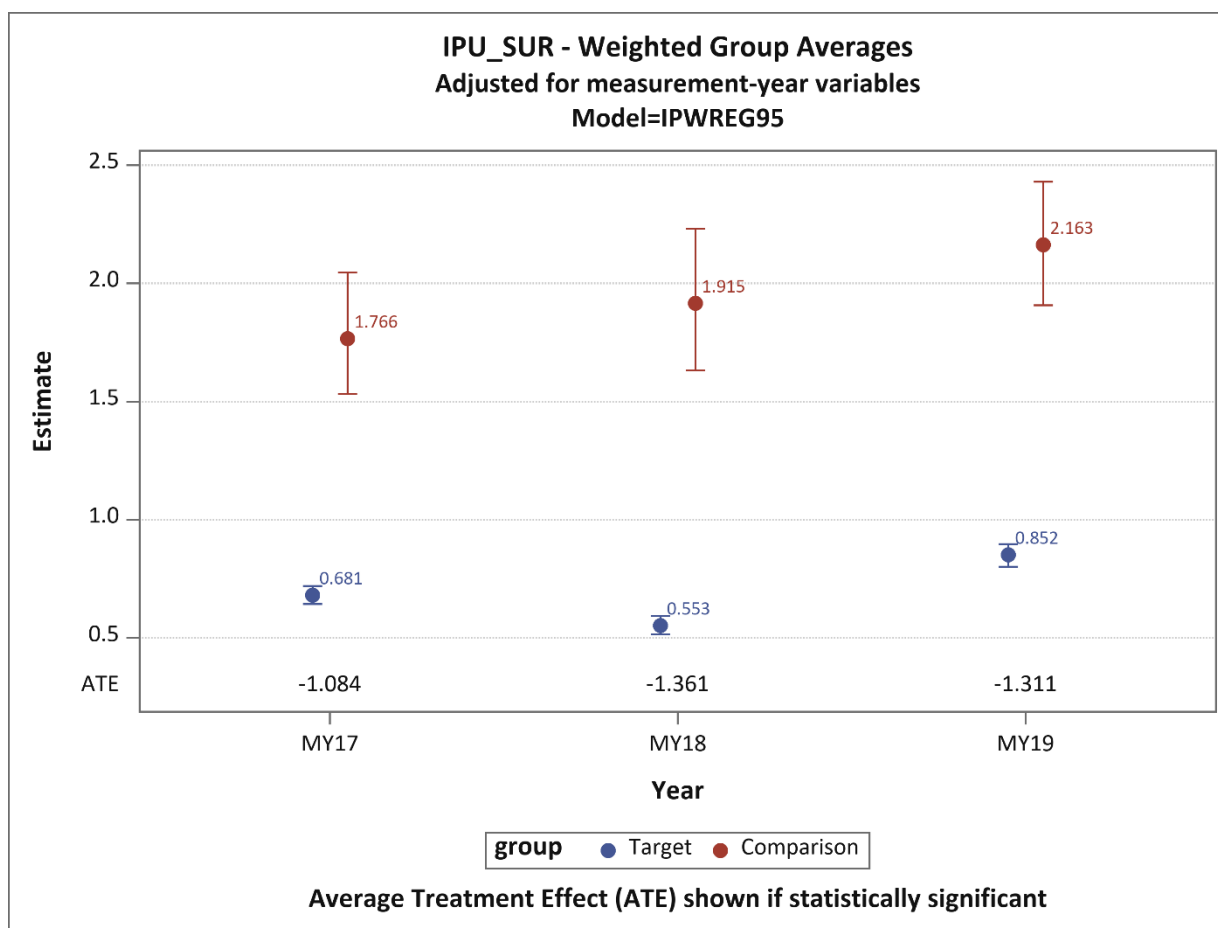


Figure 42: Inpatient Utilization – Surgery Weighted Group Averages

*Principal finding:* Arkansas Works’ surgery inpatient stay discharges per 1,000 client months were lower in all measurement years.

Rates of total inpatient discharges were significantly lower in the target group in all measurement years, after adjusting for group selection, confounders, and measurement-year effects. The Arkansas Works demonstration decreased total inpatient utilization by 2.20 (-2.82, -1.69 CI) discharges per 1,000 client months in MY17, by 2.96 (-3.45, -2.41 CI) discharges per 1,000 client months in MY18, and by 4.18 (-4.78, -3.58 CI) discharges per 1,000 client months in MY19. In summary, lower rates of maternity, surgical, and total inpatient utilization suggest that the Arkansas Works demonstration was cost effective from MY17 to MY19.

Table 53: Inpatient Utilization – Total Results

Measure	4.b.2.d	MY17	MY18	MY19
IPWREG	Target Sample	187,859	175,895	160,839
	Comparison Sample	36,074	38,167	38,350
	Target Rate	6.1558	5.8854	6.6832
	Comparison Rate	8.3598	8.8408	10.8642
	Rate Difference	-2.2040	-2.9554	-4.1810
	P Value	<.0001	<.0001	<.0001
Propensity scores trimmed at the:			5th–95th percentiles	

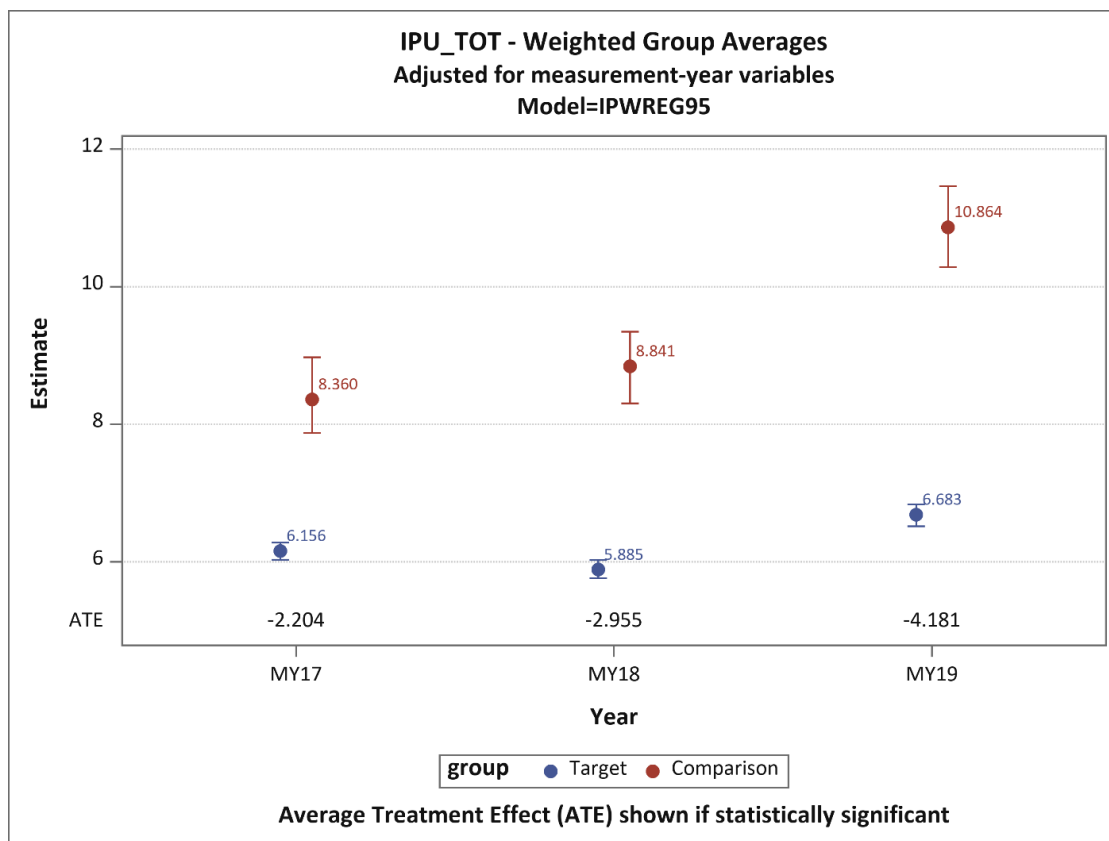


Figure 43: Inpatient Utilization – Total Weighted Group Averages

**Principal finding:** Arkansas Works’ total inpatient stay discharges per 1,000 client months were lower in all measurement years.

## 6.5 NET EFFECT OF ARKANSAS WORKS POLICIES

Because Arkansas Works is a continuation of Arkansas' 1115 waiver providing premium assistance to Medicaid expansion-eligible adults, CMS requested the evaluation of policies enacted during Arkansas Works separately from the effects of premium-assistance coverage. So, here we assess two policies implemented during Arkansas Works: the waiver of retroactive eligibility for all clients and the requirement of monthly premium payments from clients with income above 100% FPL. The retroactive eligibility waiver decreased the retroactive period from 90 to 30 days but was only in effect from May 1, 2018, to March 27, 2019. Client premiums began on or after January 1, 2017, and nonpayment of monthly premiums did not affect eligibility or enrollment. After 3 months of nonpayment reported by the QHP carrier the client would incur a debt to the state, and continued nonpayment would trigger a tax intercept.

As negotiated with CMS, pre-post analyses were performed on the years before and after Arkansas Works (2015–2016 vs. 2017–2019). To assess the waiver of retroactive eligibility, clients who were in the target group in any of the pre or post years were included in the analytic population. To assess the effect of monthly premium payments, the analytic population was subset to clients who stayed either above or below the 100% FPL income threshold in every year. This allowed for comparison of clients below 100% FPL with clients above 100% FPL across the pre- and post-periods.

All measure outcomes were adjusted for client age, gender, and race/ethnicity. Within-client correlations were accounted for with a random residual term in generalized estimating equations (GEE)-type models. P values adjusted for multiple comparisons are reported for estimated differences between groups or periods.

### 6.5.a. Effect of Arkansas Works Policies on Continuity of Coverage

#### 6.5.a.1 Percent of Clients with Any Gaps

To assess continuity of coverage, outcomes from measure 1.a.2. were used to calculate the percentage of clients with any gaps in coverage, in each year pre- and post-policy implementation. As in measure 1.a.2., a gap in coverage was defined as loss of all coverage for at least 30 days, and a gap at the beginning of a calendar year was counted if the client had had the same type of coverage in the previous calendar year. Linear probability models were used for ease of interpretation.

In the pre-period, 9.2% of clients had any gaps in coverage, compared to 19.8% of clients in the post-period. Between periods, the difference in clients with gaps in coverage was 10.6 percentage points (adj p < .0001). However, because the pre-post periods do not match the retroactive eligibility waiver period, relating these results to the retroactive eligibility waiver is not recommended.

Table 54: Assessment of Waiver of Retroactive Eligibility on the Proportion of Clients with Gaps in Coverage (n = 428,189 Clients).

	Group Mean	Lower 95% CI	Upper 95% CI	P Value
Pre-period	0.0923	0.0914	0.0933	<.0001
Post-period	0.1983	0.1973	0.1994	<.0001
Difference (post – pre)	0.1060	0.1047	0.1073	<.0001

To assess the effects of monthly premiums for Arkansas Works clients with incomes above 100% FPL, the percentage of clients with any gaps in coverage was compared between the pre- and post-policy implementation periods, and between those above and below the income threshold. Before the premium requirement, 9.3% of clients below 100%

FPL and 15.3% of clients above 100% FPL had any gaps in coverage, compared to 20.6% and 21.3% of clients, respectively, after the premium requirement. Although both income groups had a higher percentage of clients with gaps in the post-period, the increase in the higher income group (6.0 percentage points, adj p < .0001) was less than the increase in the lower income group (11.2 percentage points, adj p < .0001).

The 6.0-percentage-point difference between income groups during the pre-period (adj p < .0001) had narrowed to 0.69 percentage points in the post-period (adj p = 0.0011). The higher-income population affected by required monthly premium payments did not have a disproportionate increase in the proportion with coverage gaps. Thus, there is no evidence that the premium requirement affected, on average, whether higher-income clients experienced coverage gaps.

*Table 55: Assessment of Monthly Premium Payments on the Proportion of Clients with Gaps in Coverage (n = 310,144 Clients).*

	Income Level	Group Mean	Lower 95% CI	Upper 95% CI	P Value
Pre-period	<= 100% FPL	0.0926	0.0914	0.0939	<.0001
Pre-period	> 100% FPL	0.1527	0.1492	0.1561	<.0001
Post-period	<= 100% FPL	0.2060	0.2046	0.2074	<.0001
Post-period	> 100% FPL	0.2129	0.2095	0.2162	<.0001

#### **6.5.a.2 Average Length of Gaps**

The average length of coverage gaps was 3.7 months in the pre-policy period vs. 3.0 months in the post-policy period. Thus, average gap length decreased by 0.68 months, or about 20 days, during Arkansas Works. This positive change further calls into question the methodology of the original measure.

*Table 56: Assessment of Waiver of Retroactive Eligibility on Average Gap Length, in Months, of Clients with Gaps in Coverage (n = 140,499 Clients).*

	Group Mean	Lower 95% CI	Upper 95% CI	P Value
Pre-period	3.685	3.668	3.702	<.0001
Post-period	3.010	2.999	3.020	<.0001
Difference (post – pre)	-0.6752	0.6946	0.6559	<.0001

Before enactment of monthly required premiums for higher income clients, average gap length was 3.8 months and did not significantly differ between clients with income <= 100% FPL vs. > 100% FPL (difference = 0.0197, adj p = 0.8061). In the post-period, average gap length was 3.2 months in higher-income clients, 0.14 months (0.1029, 0.1732 CI) or about 3–5 days longer than in clients with income <= 100% FPL (adj p < 0.0001). While average gap length decreased in all clients during Arkansas Works, it decreased less, on average, in higher-income clients. Thus, the monthly premium requirement may have affected gap lengths in the higher-income clients exposed to the policy. But because eligibility was not terminated for nonpayment, the mechanism for such an effect is unclear.

Table 57: Assessment of Monthly Premium Payments on Average Gap Length, in Months, of Clients with Gaps in Coverage (n = 104,318 Clients).

	Income Level	Group Mean	Lower 95% CI	Upper 95% CI	P Value
Pre-period	<= 100% FPL	3.763	3.742	3.784	<.0001
Pre-period	> 100% FPL	3.782	3.744	3.821	<.0001
Post-period	<= 100% FPL	3.084	3.070	3.097	<.0001
Post-period	> 100% FPL	3.222	3.189	3.254	<.0001

### 6.5.b. Effect of Arkansas Works Policies on Utilization

To assess the effects of required premium payments on utilization of care, the outcomes from Adults' Access to Ambulatory and Preventive Services (AAP) and Emergent/Non-emergent/Preventable Emergency Department Visits were used to calculate client-level counts of AAP and ED visits in each year of the pre- and post-periods, for clients in the target group who did not change income categories throughout the analysis years. Poisson regression was performed on the count data and model estimates are shown.

#### 6.5.b.1 Adults' Access to Ambulatory and Preventive Services

In both the pre- and post-periods, clients with income > 100% FPL had significantly fewer ambulatory care visits per year than clients with income <= 100% FPL: an average of 3.5 (3.4995, 3.5972 CI) visits/year vs. 4.1 (4.0747, 4.1211 CI) visits/year, respectively (adj p < .0001 for difference). Across periods, utilization increased from 4.0 to 4.2 visits per year in clients with income <= 100% FPL (adj p < .0001) and from 3.4 to 3.7 visits per year in clients with income > 100% FPL (adj p < .0001). Because clients in both income categories had, on average, similar increases in the number of yearly AAP visits from the pre- to the post-period, there is no evidence that required monthly premium payments affected the utilization of outpatient care.

Table 58: Assessment of Monthly Premium Payments on Counts of Ambulatory Care Visits (n = 225,291 Clients).

	Income Level	Group Mean	Lower 95% CI	Upper 95% CI	P value
Pre-period	<= 100% FPL	4.021	3.993	4.049	<.0001
Pre-period	> 100% FPL	3.410	3.350	3.471	<.0001
Post-period	<= 100% FPL	4.176	4.149	4.203	<.0001
Post-period	> 100% FPL	3.691	3.633	3.751	<.0001

#### 6.5.b.2 Emergency Department Visits

Across the study period, clients with income >100% federal poverty level had fewer ED visits per year than clients under the federal poverty level: an average of 0.38 (0.3737, 0.3943 CI) ED visits/year vs. 0.72 (0.7136, 0.7285 CI) ED visits/year, respectively (adj p < 0.0001 for difference). The average number of ED visits per year decreased post-policy implementation for clients below federal poverty level (adj p < 0.0001) but did not decrease significantly in clients above federal poverty level (adj p = 0.1425). It is unclear what effect monthly premiums for clients with income > 100% FPL would have on ED visit utilization, especially when it was already lower than in clients unaffected by the policy.



The decrease in ED visits in clients under federal poverty level could be due to increasing experience with health care coverage and continuous access to care throughout the Medicaid expansion period. Possibly, increased utilization of ambulatory and preventive services during Arkansas Works is linked to the concomitant decrease in ED visits in clients with income  $\leq$  100% FPL. It is also possible that changing client demographics during the study period were correlated with changes in utilization.

*Table 59: Assessment of Monthly Premium Payments on Counts of Emergency Department Visits (n = 230,566 Clients).*

	Income Level	Group Mean	Lower 95% CI	Upper 95% CI	P value
Pre-period	$\leq$ 100% FPL	0.7609	0.7513	0.7706	<.0001
Pre-period	> 100% FPL	0.3926	0.3788	0.4069	<.0001
Post-period	$\leq$ 100% FPL	0.6832	0.6753	0.6912	<.0001
Post-period	> 100% FPL	0.3754	0.3637	0.3875	<.0001

## 7 CONCLUSIONS

### 7.1 CONTINUITY OF CARE CONCLUSIONS

#### **Goal 1. Improving Continuity of Care**

*Aim 1. Arkansas Works clients will have equal or better continuity of care compared to Medicaid FFS.*

*Hypothesis 1a (STC 75a, iv) Premium Assistance clients will have fewer gaps in insurance coverage.*

The findings for Hypothesis 1a are mixed: While the target group had shorter coverage gaps in all measurement years, especially in MY17, it was less likely to have had clients with fewer than 2 gaps in coverage in MY18–MY19. The proportions of clients with fewer than 2 gaps in the latter 2 years differed significantly across groups, but the differences were small on a percentage-point basis. Thus, measure 1.a.1. supported Hypothesis 1a but measure 1.a.2. did not.

These findings may suggest that the target and comparison groups experienced different policy environments in 2017 compared to the other measurement years. Results for the target group may have been impacted by the community engagement requirement in effect from June 2018 through March 2019. Additionally, increases in income associated with obtaining employer-sponsored coverage or purchase of other Marketplace plans may have also likely in the target group, but due to data limitations, these types of coverage changes would have been viewed as gaps. With these limitations in mind, clients in the target group had shorter coverage gaps but were slightly more likely to have had two or more gaps in coverage, as seen in the MMIS eligibility data.

*Table 60: Principal Findings from Measures Testing Hypothesis 1a*

Hypothesis	Measure	Principal Findings
1a (STC 75a, iv) Premium Assistance clients will have fewer gaps in insurance coverage.	1.a.1. Average Length of Gaps	The target group had significantly shorter coverage gaps.
	1.a.2. Percent of Clients with Less Than 2 Gaps	The target group had a significantly lower percentage of clients with fewer than 2 gaps in coverage in MY18 and MY19.

*Hypothesis 1b (STC 75a, v) Premium Assistance clients will maintain continuous access to the same health plans and will maintain continuous access to providers.*

While the target group had shorter enrollment periods at the health plan level, this was probably due to transitional ‘IABP’ fee-for-service eligibility segments decreasing the time available to be continuously enrolled in QHPs. About a quarter of the 2019 target population had an IABP segment, and 99.5% of IABP segments were followed by a QHP segment. To make the comparison more equitable, IABP segments were excluded from the calculations of continuous enrollment in a health plan. This lessened the impact compared to treating IABP as a separate health plan, as originally planned, but a limit on maximum QHP enrollment length remained.

In continuity of care, clients in Arkansas Works had lower continuity in seeing the same primary care practitioner over time but higher continuity in seeing the same oncologist over time. Other results were year-dependent, such as higher continuity for Arkansas Works clients seeing cardiologists in 2017 and for those seeing pulmonologists in 2018. Variation in continuity of specialist care could be due to small sample sizes in the comparison group, which led to greater

uncertainty in their estimates and higher year-to-year variability. In summary, continuous enrollment in a health plan and PCP care continuity did not support Hypothesis 1b, whereas findings from specialist care continuity were mixed.

Table 61: Principal Findings from Measures Testing Hypothesis 1b

Hypothesis	Measure	Principal Findings
1b (STC 75a, v) Premium Assistance clients will maintain continuous access to the same health plans and will maintain continuous access to providers.	1.b.1. Continuous Enrollment in a Health Plan	The target group had significantly shorter continuous enrollment periods at the health plan level.
	1.b.2. Continuity of Primary Care Provider (PCP) Care	The target group was consistently lower in clients' proportion of visits with the same primary care practitioner.
	1.b.3. Continuity of Specialist Care	The proportion of visits with the same specialist was higher in all MY for-target group clients seeing oncologists, higher in single MYs for target group clients seeing cardiologists or pulmonologists, and did not differ for target group clients seeing endocrinologists or gastroenterologists.

## 7.2 ACCESS TO CARE CONCLUSIONS

### Goal 2. Improving Access to Care

*Aim 2. Arkansas Works clients will have equal or better access to health care compared to Medicaid FFS.*

*Hypothesis 2a (STC 75a, i) Premium Assistance clients will have equal or better access to care, including primary care and specialty physician networks and services.*

Overall, there were no meaningful differences in network adequacy between the QHP and FFS networks, in support of Hypothesis 2a. The QHP networks generally provided access to primary and specialty care that is comparable with the FFS Medicaid network. Across all three years, FFS clients had somewhat better access to in-network endocrinologists. Access to other specialists, including BH/SUD providers, cardiologist, OB/GYNs, and pulmonologists was comparable. The Medicaid FFS and QHP networks met the network adequacy and geographic access standards of AID, and all issuers greatly exceeded the threshold set by CMS for contracting with ECPs.

There are limits to the geospatial analysis. First, mental health and substance use disorder treatment providers were grouped together. There may be gaps in network adequacy for these providers that were obscured by the grouping. In addition, there are limitations to using the geographic access standards as an indicator of access. Specifically, the method identifies a provider location but does not capture how many providers are available at that location, or how long the wait time is for an appointment. Notably, as of September 2020, there were 48 Health Professional Shortage Areas for Mental Health in Arkansas, and the estimate of need met was 34.4%, indicating a need for improved capacity.<sup>29</sup>

Most measures from the BRFSS survey supported Hypothesis 2a. Not surprisingly, Medicaid expansion has resulted in increased rates of health plan coverage among low-income Arkansans. In addition, Medicaid expansion appears to be driving increased rates of having a personal doctor and getting a routine checkup. Rates of getting a flu shot increased in

<sup>29</sup> <https://www.kff.org/statedata/custom-state-report/>

early expansion but by late expansion flu shot rates had returned to pre-expansion levels. It should be noted that there was a significant increase in the Arkansas Medicaid reimbursement rate of flu vaccine administration in July of 2020, which may result in higher flu vaccination rates in the years following the interim evaluation. Throughout early and late expansion, there have been consistent decreases in the number of low-income Arkansans who avoided getting care due to cost, though this change may not be attributable to Arkansas' premium assistance Medicaid expansion as decreases were also seen in comparison states.

Table 62: Principal Findings from Measures Testing Hypothesis 2a

Hypothesis	Measure	Principal Findings
2a (STC 75a, i) Premium Assistance clients will have equal or better access to care, including primary care and specialty physician networks and services.	2.a.1. PCP Network Adequacy	No meaningful differences in network adequacy between the QHP and FFS networks.
	2.a.2. PCP Network Accessibility	There was no difference in the proportion of QHP and FFS clients within 30 miles of a PCP.
	2.a.3. Specialist Network Adequacy	Although there were very small portions of the state (2% or less) without an endocrinologist, oncologist, or pulmonologist within 60 miles, any difference in coverage between the QHP and FFS networks were minimal.
	2.a.4. Specialist Network Accessibility	There was no difference in the proportion of QHP and FFS clients within 60 miles of most specialists. Across all three years, FFS clients had somewhat better access to in-network endocrinologists.
	2.a.5. Essential Community Providers Network Adequacy	All issuers greatly exceeded the threshold set by CMS for contracting with ECPs.
	2.a.8.a. Have Health Care Coverage	Increased rates of health plan coverage among low-income Arkansans
	2.a.8.b. Have a Personal Doctor	Increased rates of rates of having a personal doctor
	2.a.8.c. Last Routine Checkup	Increased rates of rates of getting a routine checkup
	2.a.8.d. Avoided Care Due to Cost	Decreases in the number of low-income respondents who avoided getting care due to cost throughout early and late expansion, in Arkansas and comparison states
	2.a.8.e. Flu Vaccine	Rates of getting a flu shot increased in early expansion but by late expansion had returned to pre-expansion levels.

Based on BRFSS survey results, Arkansans had improved access to health care in 2017–2019. We found increases from 2011–2013 baseline rates in having health care coverage, having a personal doctor, and getting a routine checkup, compared to similar states with traditional Medicaid expansions. In the federal evaluation of states with alternative Medicaid expansions, BRFSS data revealed that rates of routine checkup through 2017 increased in Michigan but not in

Indiana or Iowa, relative to states with traditional expansions.<sup>30</sup> Rates of receiving an annual flu shot were not significantly different in Indiana, Iowa, or Michigan, compared to states with traditional Medicaid expansions.<sup>30</sup>

*Hypothesis 2b (STC 75b, ii) Premium Assistance clients will have equal or better access to preventive care services.*

Clients in Arkansas Works had better access to preventive care services in all years, in four out of five measures. Rates for breast cancer screening were higher, but rates of cervical cancer screening were lower for Arkansas Works clients. Clients with diabetes were much more likely to receive an HbA1c test and to have received a statin. Arkansas Works clients were more likely to have received ambulatory and preventive care.

In women's health measures, the Arkansas Works population outperformed the Medicaid FFS population for breast cancer screening, but the comparison group outperformed with regards to cervical cancer screening. The Arkansas Medicaid annual limit of \$500 for lab tests and X-rays could have limited access to mammography. A longer claims lookback period for ages 30+ in the cervical cancer screening measure may have impacted the Arkansas Works target group, which was older than the Medicaid comparison group.

The Arkansas Works demonstration performed dramatically better for the chronic condition of diabetes. For the important aspect of monitoring a diabetic's HbA1c, Arkansas Works clients performed on average across the measurement years 27% better than the comparison group. Arkansas Works clients were more likely to be on statin therapy to treat diabetes than comparison group. The Medicaid FFS results may have been impacted by an annual coverage limit of \$500 on labs and X-ray services. Overall, the hypothesis of clients in Arkansas Works having equal or better access to preventive care was supported.

*Table 63: Principal Findings from Measures Testing Hypothesis 2b*

Hypothesis	Measure	Principal Findings
<b>2b (STC 75b, ii) Premium Assistance clients will have equal or better access to preventive care services.</b>	2.b.1. Breast Cancer Screening	The percentage of women who received a screening for breast cancer was higher in the target group.
	2.b.2. Cervical Cancer Screening	The target group had a lower rate of screening for cervical cancer.
	2.b.3. Statins for Diabetics	Clients in the target group with diabetes were more likely to have been dispensed a statin medication.
	2.b.4. HbA1c Diabetes Screening	Arkansas Works clients with diabetes were much more likely to have had an HbA1c test.
	2.b.5. Adults' Access to Preventive/Ambulatory Services	Arkansas Works clients were more likely to have had an ambulatory or preventive care visit.

An increased rate of breast cancer screening in the target group, although interpreted with caution in this study, has been echoed in other states with alternative Medicaid expansions compared to states with traditional expansions but

<sup>30</sup> <https://www.medicaid.gov/medicaid/section-1115-demonstrations/downloads/alt-medicaid-exp-summ-eval-report.pdf>

not in expansion states compared to non-expansion states.<sup>30,31</sup> The lower cervical cancer screening rate in the target group contrasts with increased rates in Iowa, Indiana, and Michigan through 2017 and similar rates in expansion states compared with non-expansion states through 2017, although the NCQA-CCS measure specifications, not used in the other studies, may have impacted this result.<sup>30,31</sup> Improvements in rates of diabetic HbA1c testing have also been seen in other states with beneficiary engagement policies, compared to states with traditional expansions.<sup>30</sup> Medicaid expansion alone did not improve rates of HbA1c testing over pre-expansion, in BRFSS survey data comparing expansion states with non-expansion states.<sup>31</sup> The higher likelihood of receiving a primary care visit in the target group is consistent with other studies of Medicaid expansion.<sup>30,31</sup>

*Hypothesis 2c (STC 75a, iii) Premium Assistance clients will have lower non-emergent use of emergency room services.*

There was no statistical difference between the comparison and target groups in utilization of either emergent or non-emergent services in the emergency department; therefore, Hypothesis 2c was not supported.

*Table 64: Principal Findings from Measures Testing Hypothesis 2c.*

Hypothesis	Measure	Principal Findings
2c (STC 75a, iii) Premium Assistance clients will have lower non-emergent use of emergency room services.	2.c.1. Non-emergent ED visits	The rate of emergency department visits classified as non-emergent did not differ between the target and comparison groups.
	2.c.2. Emergent ED visits	The rate of emergency department visits classified as emergent did not differ between the target and comparison groups.

Through MY19, the Arkansas Works demonstration showed no significant differences in non-emergent ED use between the target and control populations. In a federal evaluation of states with alternative Medicaid expansions compared to states with traditional expansions, decreases were seen in Iowa and Michigan through 2017 but an increase was evident in Indiana, the only state with a financial disincentive for non-emergent ED use.<sup>30</sup>

*Hypothesis 2d (STC 75a, ix) QHP Premium Assistance clients who are young adults eligible for EPSDT benefits will have at least as satisfactory and appropriate access to these benefits.*

Two of the three measures assessing Arkansas Works’ client access to EPSDT benefits did not support Hypothesis 2d. The rate of adolescent wellness visits was similar for the Arkansas Works EPSDT population at ages 19–20 during QHP coverage and at ages 18–19 during EPSDT-eligible Medicaid enrollment. However, rates of preventive dental and preventive vision visits declined during the same periods. This is likely due to many in the Arkansas Works population being unaware of the scope of wraparound benefits.

<sup>31</sup> Tummalapalli, S.L. and S. Keyhani. 2020. Changes in preventative health care after Medicaid expansion. *Medical Care* 58(6): 549–556. DOI: 10.1097/mlr.0000000000001307

Table 65: Principal Findings from Measures Testing Hypothesis 2d

Hypothesis	Measure	Principal Findings
2d (STC 75a, ix) QHP Premium Assistance clients who are young adults eligible for EPSDT benefits will have at least as satisfactory and appropriate access to these benefits.	2.d.1. Adolescent Well-Care Visits	No adverse effect of transitioning to Arkansas Works was detected in access to adolescent well-care visits in the EPSDT population.
	2.d.2. EPSDT Screening – Preventive Dental Visits	The rate of preventive dental visits decreased in all time periods, suggesting negative effects of age and transitioning into QHP coverage.
	2.d.3. EPSDT Screening – Preventive Vision	The rate of preventive vision visits was lowest in the QHP coverage period.

### 7.3 QUALITY OF CARE CONCLUSIONS

#### Goal 3: Improving Quality of Care

*Aim 3. Arkansas Works clients will have better or equal care and outcomes compared to Medicaid FFS.*

*Hypothesis 3b (STC 75a, vii) Premium Assistance clients will have lower rates of potentially preventable emergency department and hospital admissions.*

Most measures testing Hypothesis 3b did not find that clients in Arkansas Works had lower rates of potentially preventable ED and hospital admissions. In all measurement years, clients in Arkansas Works did not differ from clients in Medicaid FFS in rates of preventable ED visits, all-cause hospital readmissions, nor hospital admissions for diabetes short-term complications, COPD, or asthma. Clients in Arkansas Works had higher rates of admission for heart failure in MY18 but not in other years.

Table 66: Principal Findings from Measures Testing Hypothesis 3b

Hypothesis	Measure	Principal Findings
3b (STC 75a, vii) Premium Assistance clients will have lower rates of potentially preventable emergency department and hospital admissions.	3.b.1. Preventable Emergency Department (ED) Visits	There was no difference in the rate of preventable ED visits.
	3.b.2. Hospital Readmissions	The rate of unplanned readmissions did not differ.
	3.b.3.a. Preventable Hospital Admissions – Diabetes Short-term Complications	The rate of admissions for short-term diabetes complications did not differ.
	3.b.3.b. Preventable Hospital Admissions – COPD or Asthma in Older Adults	The rate of admissions for COPD or asthma in older adults did not differ.
	3.b.3.c. Preventable Hospital Admissions – Heart Failure	The target group had higher rates of admissions for heart failure in MY18.
	3.b.3.d. Preventable Hospital Admissions – Asthma in Younger Adults	The rate of admissions for asthma in younger adults did not differ.

The lack of difference in preventable hospitalizations between the target and comparison groups is similar to CMS' inconclusive findings in three states with beneficiary engagement requirements. Compared to states with traditional Medicaid expansion, Indiana, Iowa, and Michigan did not consistently differ in short-term admissions for diabetes, asthma, COPD, or heart failure from 2014 through 2017.<sup>30</sup> A Massachusetts study found that primary care sensitive ED use, encompassing the NYU non-emergent and preventable categories, remained higher in individuals on public insurance compared to the privately insured, 5 years into statewide public health reforms.<sup>32</sup>

*Hypothesis 3c (STC 75a, xi) QHP Premium Assistance clients will have equal or better quality of care provided.*

Two of six measures testing the hypothesis that Arkansas Works clients had at least the same quality of care provided to Medicaid FFS clients did not show significant differences: follow-up after a mental illness hospitalization and C-section rate. Single-year results were better for clients in Arkansas Works in adherence to antipsychotics (MY17), monitoring clients on ACE-inhibitors or ARBs (MY17), monitoring clients on diuretics (MY18), and monitoring clients on ACE-inhibitors, ARBs, or diuretics (MY17). Overall, the hypothesis of equal or better quality of care in Arkansas Works was supported.

Two measures had sample sizes too small for propensity-score weighting, but regression-adjusted results showed Arkansas Works having higher rates of viral load testing in HIV patients in MY17 and MY18 and no difference in rates of beta-blocker treatment after heart attack in all measurement years. The \$500 annual limit on laboratory tests and X-rays in FFS Medicaid may have impacted rates in measures with follow-up lab testing.

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<sup>32</sup> <https://www.themedicalcareblog.com/primary-care-sensitive-emergency-visits-massachusetts/>



Table 67: Principal Findings from Measures Testing Hypothesis 3c

Hypothesis	Measure	Principal Findings
3c (STC 75a, xi) QHP Premium Assistance will equal or better the quality of care provided.	3.c.1. Follow-Up After Hospitalization for Mental Illness	The rates of follow-up visits within 7 and 30 days after a hospitalization for mental illness did not differ between the 2 groups.
	3.c.2. Adherence to Antipsychotics for Individuals with Schizophrenia	Arkansas Works clients were more likely to have remained on an antipsychotic in MY17.
	3.c.3. Persistence of Beta-Blocker Treatment After a Heart Attack	Rates of persistent beta-blocker treatment after heart attack did not differ between Arkansas Works and Medicaid FFS clients.
	3.c.4. Annual Monitoring for Patients on Persistent Medications	The rate of Arkansas Works clients who received a therapeutic monitoring event was higher in MY17 for clients on ACE inhibitors or ARBs, higher in MY18 for clients on diuretics, and higher in MY17 for clients on any of the above medications.
	3.c.5. Annual HIV/AIDS Viral Load Test	The rate of receiving an annual HIV viral load test was higher for Arkansas Works clients in MY17 and MY18.
	3.c.6. C-Section Rate	C-section rates did not differ between the two groups.

In other alternative Medicaid expansion states, rates of follow-up after hospitalization for mental health differed from those of comparison states with traditional Medicaid expansions through 2017, with increased rates in Indiana and Iowa but decreased rates in Michigan.<sup>30</sup> The other quality of care measures assessed for Hypothesis 3c, two of which were homegrown, were not found in comparable studies of similar populations.

## 7.4 COST EFFECTIVE CARE CONCLUSIONS

### **Goal 4: Providing Cost Effective Care**

*Aim 4. Services provided to Arkansas Works clients will be cost effective.*

*Hypothesis 4a (STC 75a, xi) QHP Premium Assistance will reduce overall premium costs in the Exchange Marketplace.*

Arkansas has a relatively steady marketplace, with the number of health insurers offering plans on the individual marketplace and the health insurance carriers remaining consistent across the years 2014–2019. Enrollment in the Arkansas individual marketplace has remained relatively steady and the number of silver-level plans, the metal level of QHPs offered through Arkansas Works, has increased throughout MY17–MY19. Arkansas premiums were relatively stable from 2017–2019. Arkansas premiums at the silver level, in particular, increased at a lower rate per annum when compared to the contiguous states, remaining consistently below the cohort median indicating Arkansas Works was cost effective.

Table 68: Principal Findings from Measures Testing Hypothesis 4a

Hypothesis	Measure	Principal Findings
4a (STC 75a, xi) QHP Premium Assistance will reduce overall premium costs in the Exchange Marketplace.	4.a.1. Arkansas Program Characteristics	Total and silver level plans offered increased from MY17 to MY19; second-lowest premium costs increased
	4.a.2. Arkansas Regional Average Program Characteristics	Second-lowest premium costs increased from MY17 to MY19
	4.a.3. Contiguous State Program Characteristics	Benchmark plan premium levels increased at a lower rate in Arkansas than in contiguous states.

*Hypothesis 4b (STC 75a, xii) The cost for covering Premium Assistance clients will be comparable to what the costs would have been for covering the same expansion group in Arkansas Medicaid fee-for-service in accordance with STC 69 on determining cost effectiveness and other requirements in the evaluation design as approved by CMS.*

The Arkansas Works demonstration met CMS budget neutrality guidelines in all measurement years. The net payments made per individual with a paid premium were lower than the budget neutrality cap by 9% in 2017, 5% in 2018, and 2% in 2019. Overall costs increased 9% from 2017 to 2018 and 8% from 2018 to 2019.

Inpatient utilization is an important driver of health care costs; the target group had significantly lower rates in all types of inpatient utilization except medical stays. Discharges for maternity, surgery, and total inpatient stays per 1,000 client months were significantly lower in the target group over all measurement years, although the rate of medical inpatient discharges was slightly higher in the target group in MY17 and MY18. In summary, budget neutrality and lower rates of maternity, surgical, and total inpatient utilization indicate that the Arkansas Works demonstration was cost effective from MY17 to MY19.

Table 69: Principal Findings from Measures Testing Hypothesis 4b

Hypothesis	Measure	Principal Findings
4b (STC 75a, xi) Costs are lower than or comparable to established budget neutrality guidelines and related costs	4.b.1. Meets Budget Neutrality	Net payments made per individual with a paid premium were lower than the budget neutrality cap.
	4.b.2. Inpatient Utilization – General Hospital/Acute Care	Arkansas Works' discharges per 1,000 client months for maternity, surgery, and total inpatient stays were lower in all MY, but higher for medical inpatient stays in MY17 and MY18.

Although greater access to primary care is often predicted to decrease ED utilization and its associated costs, evidence from other states has been mixed.<sup>33,34</sup> In assessing the impacts of Arkansas Works policies on premium assistance

<sup>33</sup> Gotanda, H., et al. 2020. Association between the ACA Medicaid expansions and primary care and emergency department use during the first three years. *Journal of General Internal Medicine* 35(3):711–718. DOI: 10.1007/s11606-019-05458-w

<sup>34</sup> Finkelstein, A., et al. 2016. Effect of Medicaid coverage on ED use—further evidence from Oregon's experiment. *New England Journal of Medicine* 375(16):1505–1507. DOI: 10.1056/nejmp1609533

clients' utilization, we found a slight increase in primary care use from 2015–2016 to 2017–2019. In the same timeframe, ED utilization decreased in lower-income clients during Arkansas Works while remaining low in both periods for clients above federal poverty level. This finding suggests that many years into Arkansas' premium assistance demonstration, improvements are still being made.

An analysis of statewide budget impacts of Medicaid expansion showed that the 'sticker price' is not the price actually paid, due to cost savings in state expenditures within Medicaid as well as in other state programs. Expansion may also generate state revenue from taxes and increased economic activity.<sup>35</sup> In Arkansas, the savings to traditional Medicaid from expansion was estimated at 8% in fiscal year 2017, and up to 60% of the expansion cost in 2020 was projected to be offset by savings within Medicaid.<sup>35</sup>

## 7.5 OVERARCHING CONCLUSIONS

Given the findings that have emerged from the IE's interim evaluation, the first three years of the demonstration appear to have mixed results on Arkansas Works clients' access to care and continuity of care while having little to no impact on quality of care. The trend toward shorter duration periods of coverage gaps within the target group is a favorable finding. The increased number of clients in the target group with gaps, however, appears to be a conflicting result.

The mixed increases in access appear to be consistent with access to care gains previously observed in Arkansas following the state's initial expansion period between 2014 and 2016. With the state's adequate coverage levels through QHP networks and carrier participation, clients appear able to receive primary and specialty care when needed. Arkansas Works does not appear to be materially impacting the overall quality of care, however. The low or non-detectable impacts of Arkansas Works on quality of care is not a novel outcome and appears to be consistent with other Medicaid expansions.

Although the demonstration remains compliant with its budget neutrality requirements, policy makers should continue to prioritize population health and quality improvement targets as material indicators of the demonstration's long-term capacity to reduce costs and eliminate low-value spending. An example of this can be seen within non-emergent ED use, where results indicate a very small difference between target and control populations. With findings indicating that target populations received equal or better access to preventive care services, the state appears well positioned to impact care patterns to eliminate many ambulatory care sensitive conditions including non-emergent ED use.

Given the state's wide array of both urban and rural care settings, policy solutions designed to improve patient outcomes statewide will likely not be uniform and may vary by region, payer, or provider type. Policymakers should thus continue to identify where potentially avoidable costs are occurring and how the Medicaid program can continue its historically innovative efforts to improve care while reducing unnecessary costs.

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<sup>35</sup> Ward, B. Commonwealth Fund issue briefs. "The impact of Medicaid expansion on state's budgets." May 5, 2020. Accessed at <https://www.commonwealthfund.org/publications/issue-briefs/2020/may/impact-medicaid-expansion-states-budgets>

## 8 INTERPRETATIONS, POLICY IMPLICATIONS, AND INTERACTIONS WITH OTHER STATE INITIATIVES

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Though not necessarily directly impactful to the Arkansas Works population, the policy and implementation of Arkansas' PASSE waiver, which became effective on March 1, 2019, has framework that could be beneficially duplicated for the Arkansas Works population, including focused populations receiving care coordination as well as outlining quality measures for stakeholders.

There is a \$500 annual combined lab/imaging limit for Medicaid Fee for Service clients, which could be impacting the comparison group rates on measures with lab or imaging components such as diabetes HbA1c, HIV/AIDS viral load tests, and cancer screenings. Act 891 was recently signed into law with an effective date of July 2022, which will increase the annual limit to \$500 for labs and \$500 for imaging and align more closely with the Essential Health Benefits (EHBs) required of QHPs. QHP benefits may also have included diabetes care management and diabetes education, which could have contributed to improved HbA1c screening rates in premium assistance clients.

Act 960 was signed into law on April 27, 2021, expanding the scope of practice for advance practice nurse practitioners (APRNs) and other healthcare professionals. This legislative action could increase access to APRNs as PCPs for clients in traditional Medicaid and increase access to primary care providers for all clients. Although continuity of PCP care was slightly lower for premium assistance clients, this finding could have been partly due to wider access to primary care practitioners and fewer restrictions on care being provided through a designated PCP.

In 2014, Arkansas Medicaid launched the Patient Centered Medical Home (PCMH) program, a Value Based Program (VBP) and care delivery model where care is coordinated through a Primary Care Physician (PCP). Medicaid worked with PCPs to invest in improvement health care through improving the patient's care coordination and providing "best practice" medicine with yearly goals and established metrics to measure progress. The program has been highly successful with enrolling PCPs that administer care to over 87% of clients in Medicaid's primary care case management (PCCM) program in 2019 with steady improvements in outcome metrics.

In 2014, quarterly reports containing information about PCMH practices' six-month attributed patient panel, including "best practice" medicine guidelines, metric results, and statewide thresholds, began to be distributed. With this information, PCMHs understood their results and where they needed to improve. In mid-2018, the Population Health Management Report (PHMR) was introduced to move to population health (i.e., actionable metric information on all the PCP's clients vs. six-month attributed) and provide "near" time metric results in a monthly report. The structure of the PCMH program is beneficial to the comparison group since they would be required to have a PCP as well as the structure and emphasis on care coordination and quality outcomes. GDIT calculates and distributes the PHMR reports to PCMH clinics.

In 2019, about one-third of clients in the comparison group were enrolled in an Arkansas Medicaid PCMH. Under Arkansas Code Ann. 23-61-1007, QHP carriers in the state Marketplace are required to participate in the Arkansas Payment Improvement Initiative (APII), to include assignment of a PCP, support for PCMH, and access to clinical performance data. However, the extent of PCMH enrollment for clients in the Arkansas Works QHPs is unclear, and carrier-specific variations in PCMH program requirements may lessen their impact on care delivery.

## 9 LESSONS LEARNED AND RECOMMENDATIONS

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During the observation period, several operational and demonstration policy trends have emerged which may assist with future iterations of the demonstration.

Operationally, building enhanced oversight of timely and accurate data submissions by the demonstration's QHP carriers may enable more effective feedback to inform policy makers and demonstration oversight personnel. A lack of regular reporting poses a barrier to the demonstration's ability to identify and mitigate adverse trends. Identifying and implementing structures to ensure regular data submission and required quality assurance steps to drive greater data integrity may assist policymakers and demonstration administration personnel with effective improvement and management of the demonstration.

From a policy perspective, greater monitoring of quality improvement and performance efforts carried out by the demonstration's QHP carriers would likely benefit efforts to improve client health. Building on timely and accurate data submission requirements, the demonstration would likely benefit from regular and structured reviews of patient outcomes and alignment on improvement efforts with carriers. Historically, Arkansas Medicaid, its QHP carriers, and its delivery system have engaged in innovative policy solutions focused on payment reform and improving patient outcomes. With quality of care levels varying irregularly across observed measures throughout the interim evaluation period, carriers and providers would likely benefit from regular information sharing related to trends in specific patient populations or variances between providers across cost and quality measures.

An additional policy recommendation is to consider adding definitions to the Network Adequacy Standards<sup>36</sup> which would require the monthly QHP provider directories to only use the terms "open panel" and "accepting new patients" if appointments are available within 30 days, in particular for providers who serve clients with acute needs such as mental health and SUD providers. This change would allow for greater insight into network adequacy and access.

Client communications could be enhanced to better inform and empower the Arkansas Works population. Highlighting access to wrap services such as non-emergency transportation and EPSDT in the QHP's new client welcome packets as well as on QHP websites should positively impact early engagement as well as access to care. Redetermination requirements should be communicated often and be easily understood, from multiple stakeholders if possible. This should positively impact the maintenance of continuous care and coverage. Furthermore, notices to clients regarding premium payment obligations should be well-defined in applicable communications, including encouragement of payments, methods of payments, tax intercept possibilities, etc. This would likely positively impact cost-effectiveness and possible future transitions to other healthcare coverages.

The CAHPS patient experience measures were excluded from this evaluation due to the timing of the survey instrument and award to the evaluator contractor. To understand the patient experience throughout the demonstration, surveys should be executed early, at the mid-point and the end of the demonstration period. Survey results will be included in the summative evaluation.

To better understand reasons for Arkansas Works coverages ending, conducting exit surveys with former clients will provide valuable insights toward continuity and transition of coverage.

QHP annual wellness checkup incentive offerings should continue, and additional offerings are recommended. Furthermore, notice of any incentives should be highlighted in all client communications. Increasing prioritization of QHP

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<sup>36</sup> 45 CFR § 156.230 for Network Adequacy Standards

care coordination, especially toward focused populations such as young adults, will likely establish positive health practices, reduce acute and chronic illnesses, and thus reduce costs.

Of important note, DHS released a draft demonstration extension request which addresses many of the recommendations set forth in this Interim Evaluation.

## 10 CONTRIBUTORS

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## 11 CURRENT EVALUATION DESIGN

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The CMS approved Evaluation Design can be found at <https://www.medicaid.gov/medicaid/section-1115-demo/demonstration-and-waiver-list/81021>.

## 12 ACRONYM LIST

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**AAP: Adults' Access to Preventive/Ambulatory Health Services**

**ABP: Alternative Benefit Plan**

**ACA: Affordable Care Act**

**ACE: Angiotensin converting enzyme**

**ACS: American Community Survey**

**AD: Adult**

**AHRQ: Agency for Healthcare Research and Quality**

**AID: Arkansas Insurance Department**

**AIDS: Acquired immunodeficiency syndrome**

**AMI: Acute Myocardial Infarction**

**APCD: All-Payer Claims Database**

**APRN: Advanced Practice Registered Nurse**

**ARB: Angiotensin receptor blockers**

**ASCVD: Atherosclerotic cardiovascular disease**

**ATE: Average Treatment Effect**

**AWC: Adolescent Well-Care Visits**

**BCS: Breast Cancer Screening**

**BH: Behavioral Health**

**BRFSS: Behavioral Risk Factor Surveillance System**

**CAHPS: Consumer Assessment of Health Plan Survey**

**CCIO: Center for Consumer Information and Insurance Oversight**

**CCS: Cervical Cancer Screening**

**CDC: Centers for Disease Control and Prevention**

**CEM: Coarsened Exact Matching**

**CFR: Code of Federal Regulations**

**CH: Child**

**CHIP: Children's Health Insurance Program**

**CI: Confidence Interval**

**CMS: Centers for Medicare & Medicaid Services**

**COPD: Chronic obstructive pulmonary disease**

**DHHS: Department of Health and Human Services**

**DMS: Division of Medical Services**

**DSH: Disproportionate Share Hospitals**

**DSS: Decision Support System**

**ECP: Essential Community Providers**

**ED: Emergency Department**

**EPSDT: Early and Periodic Screening, Diagnosis, and Treatment**

**ESI: Employer Sponsored Insurance**

**ESRD: End Stage Renal Disease**  
**FFM: Federally Facilitated Marketplace**  
**FFS: Fee-for-service**  
**FMAP: Federal Medical Assistance Percentage**  
**FORHP: Federal Office of Rural Health Policy**  
**FPL: Federal poverty level**  
**FQHC: Federal Qualified Health Center**  
**FUH: Follow-up After Hospitalization**  
**GDIT: General Dynamics Information Technology**  
**GEE: Generalized Estimating Equations**  
**HbA1c: Hemoglobin A1c**  
**HCIP: Health Care Independence Program**  
**HEDIS: Healthcare Effectiveness Data and Information Set**  
**HHS-HCC: Department of Health and Human Services Hierarchical Condition Category**  
**HIV: Human Immunodeficiency Virus**  
**IABP: Interim Alternative Benefit Plan**  
**IE: Independent Evaluator**  
**IHS: Indian Health Service**  
**IPTW: Inverse Probability of Treatment Weight**  
**IPU: Inpatient Utilization**  
**IPWREG: Inverse Probability Weighted with Regression Adjustment**  
**IPWS: Inverse Probability Weighting with Ratio and Scale Adjustments**  
**LPW: Limited Pregnant Women**  
**LSMean: Least Squares Means**  
**MCAID: Medicaid**  
**MH: Mental Health**  
**MMIS: Medicaid Management Information System**  
**MPM: Monitoring for Patients on Persistent Medications**  
**NCQA: The National Committee for Quality Assurance**  
**NEMT: Non-Emergency Transportation**  
**NYU: New York University**  
**OB/GYN: Obstetrics and gynecology**  
**PASSE: Provider-led Arkansas Shared Savings Entity**  
**PBH: Persistence of Beta Blocker Treatment After a Heart Attack**  
**PCCM: Primary Care Case Management**  
**PCG: Public Consulting Group**  
**PCMH: Patient Centered Medical Home**  
**PCP: Primary Care Provider/Physician**  
**PCR: Plan All-Cause Readmission**  
**PDC: Proportion of days covered**

**PDENT: Pediatric Dental**

**PHMR: Population Health Management Report**

**PQI: Prevention Quality Indicators**

**PHS: Public Health Service**

**QHPs: Qualified Health Plans**

**REGADJ: Regression Adjustment**

**RHC: Rural Health Clinic**

**SAA: Adherence to Antipsychotic Medications for Individuals with Schizophrenia**

**SLCSP: Second-Lowest Cost Silver Premium**

**SPD: Statin Therapy for Patients with Diabetes**

**STC: Special terms and conditions**

**STD: Sexually Transmitted Disease**

**StdErr: Standard Error**

**TB: Tuberculosis**

**UPC: Usual Provider of Care**

**ZCTA: Zip-Code Tabulation Area**